U.S. Department
of Transportation

**Federal Aviation
Administration**

FAA Academy
Guide

September 2009

Terminal Controller Training

Phraseology Guide

FOR TRAINING PURPOSES ONLY

INTRODUCTION

Purpose

This guide contains phraseology as set forth in various chapters of FAA Order 7110.65, Air Traffic Control. The phraseology in this guide is listed by the same chapter numbers found in the 7110.65. All controllers are required to be familiar with the contents of this guide that pertain to their operational responsibilities, and to exercise their best judgment if they encounter situations that are not covered by it. The material in this guide will be used in the training environment and throughout your career.

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INTRODUCTION

The information presented in this section corresponds with Chapter 1 of the 7110.65.

1-2-5 ANNOTATIONS

The annotation ***PHRASEOLOGY*** denotes the prescribed words and/or phrases to be used in communications.

NOTE - Controllers may, after first using the prescribed phraseology for a specific procedure, rephrase the message to ensure the content is understood. Good judgment shall be exercised when using nonstandard phraseology.

The annotation ***EXAMPLE*** provides a sample of the way the prescribed phraseology associated with the preceding paragraph will be used. If the preceding paragraph does not include specific prescribed phraseology, the ***EXAMPLE*** merely denotes suggested words and/or phrases that may be used in communications.

NOTE - The use of the exact text contained in an example not preceded by specific prescribed phraseology is not mandatory. However, the words and/or phrases are expected, to the extent practical, to approximate those used in the example.

GENERAL CONTROL PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 2 of the 7110.65.

2-1-6 SAFETY ALERTS

Issue a safety alert to an aircraft if you are aware the aircraft is in a position/altitude which, in your judgment, places it in unsafe proximity to terrain, obstructions, or other aircraft. Once the pilot informs you action is being taken to resolve the situation, you may discontinue issuance of further alerts. Do not assume that, because someone else has responsibility for the aircraft, the unsafe situation has been observed and the safety alert issued; inform the appropriate controller.

Phraseology	**Examples**
LOW ALTITUDE ALERT (call sign), CHECK YOUR ALTITUDE IMMEDIATELY.	*"Low altitude alert Northwest Three, check your altitude immediately. The Minimum En Route Altitude in your area is one thousand niner hundred."*
THE, (as appropriate), MEA/MVA/MOCA/MIA IN YOUR AREA IS (altitude).	
Or if past the final approach fix (nonprecision approach), or the outer marker, or the fix used in lieu of the outer marker (precision approach), and if known, issue	
THE, (as appropriate), MDA/DH IS (altitude).	*"Northwest Three, the decision height is four eight six."*
TRAFFIC ALERT (call sign) (position of traffic), ADVISE YOU TURN LEFT/RIGHT (heading)	*"Traffic alert King Air Eight Zero Mike, two o'clock four miles, advise you turn left heading two six zero, descend to five thousand immediately."*
and/or	
CLIMB/DESCEND (specific altitude if appropriate), IMMEDIATELY.	

2-1-10 NAVAID MALFUNCTIONS

When an aircraft reports a Global Positioning System (GPS) anomaly, record the appropriate data and broadcast the anomaly report to other aircraft as necessary.

Phraseology	**Example**
ATTENTION ALL AIRCRAFT, GPS REPORTED UNRELIABLE IN VICINITY/AREA (position).	*"Attention all aircraft, G-P-S reported unreliable in the area three zero miles south of Waco V-O-R."*

When an aircraft reports a Wide Area Augmentation System (WAAS) anomaly, determine if the pilot has lost all WAAS service.

Phraseology	Example
(Call Sign) ARE YOU RECEIVING ANY WAAS SERVICE? If the pilot reports receipt of any WAAS service, continue normal operations. If loss of all WAAS service is reported, report the situation as a GPS anomaly.	*"Twin Cessna Eight Niner Victor, are you receiving any W-A-A-S service?"*

2-1-17 RADIO COMMUNICATIONS TRANSFER

Transfer radio communications by specifying the facility name or location name and terminal function to be contacted.

TERMINAL: Omit the location name when transferring communications to another controller within your facility except, when instructing the aircraft to change frequency for final approach guidance, include the name of the facility.

Include the frequency to use, except in the following cases: FSS frequency; departure frequency if previously given or published on a SID chart for the procedure issued; for Terminal facilities, the ground/local control frequency if, in your opinion, the pilot knows which frequency is in use; or the numbers preceding the decimal point if the ground control frequency is in the 121 MHz band width. Issue a time, fix, or altitude when to contact a facility as necessary.

Phraseology	***Examples***
CONTACT (facility name or location name and terminal function), (frequency).	*"World Six Fifty-One heavy, contact tower."*
AT (time, fix, or altitude).	*"King Air Three Eight Zero Mike, contact Little Rock Approach, one one niner point five at Lasky."*
In situations where an operational advantage will be gained, and following coordination with the receiving controller, you may instruct aircraft on the ground to monitor the receiving controller's frequency.	*"Cessna Six Three Six One Four, monitor tower."*
(Identification) CHANGE TO MY FREQUENCY (state frequency).	*"King Air Three Eight Zero Mike, change to my frequency one two three point four."*
REMAIN THIS FREQUENCY.	*"King Air Three Eight Zero Mike, remain this frequency."*

2-1-18 OPERATIONAL REQUESTS

Respond to a request from another controller, a pilot, or a vehicle operator by one of the following verbal means: restating the request in complete or abbreviated terms followed by the word "APPROVED" or the phrase "APPROVED AS REQUESTED." State restrictions followed by the word "APPROVED," the word "UNABLE," and a reason, if time permits, or state the words "STAND BY."

Phraseology	***Examples***
(Requested operation) APPROVED.	*"November Four Three One Two Mike, left turn approved."*
APPROVED AS REQUESTED.	*"November Four Three One Two Mike, approved as requested."*
(Restriction and/or additional instructions, requested operation) APPROVED.	*"November Four Three One Two Mike, maintain seven thousand, change to Flight Service frequency approved."*
UNABLE (requested operation), (reason and/or additional instructions).	*"November Four Three One Two Mike, unable due to traffic."*
State the words "stand by."	*"November Four Three One Two Mike, stand by."*

2-1-20 WAKE TURBULENCE CAUTIONARY ADVISORIES

Issue cautionary information to any aircraft if, in your opinion, wake turbulence may have an adverse effect on it. When traffic is known to be a heavy aircraft, include the word *"HEAVY"* in the description.

Phraseology	***Examples***
CAUTION WAKE TURBULENCE (traffic information).	*"Cherokee Four Six Papa, caution wake turbulence, traffic two o'clock five miles, southbound, Heavy American Boeing Seven Forty-Seven, five thousand."*
	"Cherokee Four Six Papa, caution wake turbulence, traffic two o'clock five miles, southbound, American Boeing Seven Fifty-Seven, five thousand."

2-1-21 TRAFFIC ADVISORIES

Unless an aircraft is operating within Class A airspace or omission is requested by the pilot, issue traffic advisories to all aircraft (IFR or VFR) on your frequency when, in your judgment, their proximity may diminish to less than the applicable separation minima. Where no separation minima applies, issue traffic advisories when, in your judgment, aircraft proximity warrants it.

Phraseology	**Examples**
TRAFFIC (number) O'CLOCK/ (direction), (number) MILES, (direction) BOUND, and/or (relative movement), (type of aircraft and altitude if known).	*"Bonanza Six Seven Bravo, traffic eleven o'clock, five miles, eastbound, opposite direction, Heavy D-C Eight, one one thousand."*
	"Bonanza Six Seven Bravo, traffic northwest five miles, eastbound, opposite direction, Heavy D-C Eight, one one thousand."
(Type of aircraft and relative position), (number of feet) FEET ABOVE/BELOW YOU.	*"Bonanza Six Seven Bravo, traffic, Citation to your left, five hundred feet above you."*
ALTITUDE UNKNOWN.	
TRAFFIC NO FACTOR/NO LONGER OBSERVED.	*"November Eight Two One Uniform, traffic no longer observed."*
(Number) O'CLOCK TRAFFIC NO FACTOR/NO LONGER OBSERVED.	*"United Ten Heavy, ten o'clock traffic no factor."*
(Direction) TRAFFIC NO FACTOR/NO LONGER OBSERVED.	*"Cherokee Two Niner Papa, northbound traffic no longer observed."*

For traffic that is not radar identified:

Phraseology	**Examples**
TRAFFIC, (number) MILES/MINUTES (direction) OF (airport or fix), (direction)-BOUND, (type of aircraft and altitude if known), ESTIMATED (fix) (time).	*"King Air Two One Uniform, traffic, niner miles southeast of Sheridan VORTAC, west-bound, Bonanza Seven Thousand, estimated Hot Springs VORTAC one three three five."*
TRAFFIC, NUMEROUS AIRCRAFT VICINITY (location).	*"Cessna Three Seven Bravo, traffic, numerous aircraft vicinity Cambell Airstrip. Altitude unknown."*
ALTITUDE UNKNOWN.	

2-1-22 BIRD ACTIVITY INFORMATION

Issue advisory information on pilot-reported, tower-observed, or radar-observed and pilot-verified bird activity. Include position, species or size of birds, if known, course of flight, and altitude. Do this for at least 15 minutes after receipt of such information from pilots or from adjacent facilities unless visual observation or subsequent reports reveal the activity is no longer a factor.

Examples

"Cessna Two Four Bravo, flock of geese, one o'clock, seven miles, northbound, last reported at four thousand."

"Baron Five Seven Alfa, flock of small birds, southbound along Mohawk River, last reported at three thousand."

"Commander One Papa Alfa, numerous flocks of ducks, vicinity Lake Winnebago, altitude unknown."

2-1-24 WHEELS DOWN CHECK

USA/USAF/USN
Tower shall issue the wheels down check at an appropriate place in the pattern.

Phraseology

CHECK WHEELS DOWN.

Example

"NAVY One One Two Three Zero, check wheels down."

Approach/Arrival control, GCA shall issue the wheels down check.

Phraseology

WHEELS SHOULD BE DOWN.

Example

"NAVY One One Two Three Zero, wheels should be down."

2-1-26 PILOT DEVIATION NOTIFICATION

When it appears that the actions of a pilot constitute a pilot deviation, notify the pilot, workload permitting.

Phraseology

POSSIBLE PILOT DEVIATION ADVISE YOU CONTACT (facility) AT (telephone number).

Example

"American Four Thirty-Six, possible pilot deviation advise you contact Cheyenne Tower at seven seven two six four eight five."

2-2-11 FORWARDING AMENDED AND UTM DATA

Forward any amending data concerning previously forwarded flight plans, except that revisions to ETA information in par. 2-2-6, IFR Flight Progress Data, need only be forwarded when the time differs by more than 3 minutes from the estimate given.

Phraseology

(Identification), REVISED (revised information).

Examples

"American Four Thirty-Six, revised flight level three three zero."

"Delta Sixty-Four, revised type M-D Eighty."

2-4-5 AUTHORIZED TRANSMISSIONS	
Transmit only those messages necessary for air traffic control or otherwise contributing to air safety.	
2-4-8 RADIO MESSAGE FORMAT	
Each sector/position on initial contact with aircraft shall state the aircraft identification, the ATC unit identification, message (if any), and the word "over" if required. Subsequent transmissions from the same position/sector may omit ATC unit identification. *(ref. 7110.65M, par. 2-4-20)*	***Examples*** *"Leave Citation Five Six Two Romeo Alfa, Los Angeles Approach, altimeter two niner eight niner."* *"Citation Two Romeo Alfa, descend and maintain niner thousand."*
2-4-9 ABBREVIATED TRANSMISSIONS	
Use the identification prefix and the last 3 digits or letters of the aircraft identification after communications have been established. Do not abbreviate similar sounding aircraft identifications or the identification of an air carrier or other civil aircraft having an FAA-authorized call sign. Omit the facility identification after communications has been established. Transmit the message immediately after the call up (without waiting for the aircraft's reply) when the message is short and the receipt is generally assured. Omit the word "over" if the message obviously requires a reply.	***Example*** *"Cessna Eight Four Two, cleared to land."*
2-4-12 INTERPHONE MESSAGE FORMAT	
Both caller and receiver identify their facility and/or position in a manner that ensures they will not be confused with another position. Between two facilities that utilize numeric position identification, the caller must identify both the facility and position.	***Examples*** Caller- "*Albuquerque Center Sixty-Three, Amarillo Departure."* Receiver- "*Albuquerque Center."* Caller- "*Albuquerque Sixty-Three, Fort Worth Eighty-Two."*
2-4-13 INTERPHONE MESSAGE TERMINATION	
Terminate interphone messages with operation initials.	***Examples*** Caller- "*Denver High, R Twenty-Five."* Receiver- "*Denver High."* Caller- "*Request direct Denver for Northwest Three Twenty-Eight."* Receiver- "*Northwest Three Twenty-Eight, direct Denver approved. H.F."* Caller- "*G.M."*

2-4-14 WORDS AND PHRASES	
The word "heavy" shall be used as part of the identification of heavy aircraft as follows: **TERMINAL:** In all communications with or about heavy jet aircraft. When in radio communication with "Air Force One" or "Air Force Two," do not add the heavy designator to the call sign. State only the call sign "Air Force One/Two" regardless of the type aircraft.	***Example*** *"United Fifty-Eight Heavy."*
2-4-15 EMPHASIS FOR CLARITY	
Emphasize appropriate digits, letters, or similar sounding words to aid in distinguishing between similar sounding aircraft identifications. Additionally, notify each pilot concerned when communicating with aircraft having similar sounding identifications.	***Examples*** *"Northwest Thirty-One Northwest, Miami Center, Southwest. Thirty-one is also on frequency, acknowledge."* *"Southwest Thirty-One Southwest, Miami Center, Northwest Thirty-one is also on frequency, acknowledge."*
2-4-20 AIRCRAFT IDENTIFICATION	
U.S. Registry aircraft state one of the following: Civil – State the prefix "November" when establishing initial communications with U.S. registered aircraft followed by the ICAO phonetic pronunciation of the numbers/letters of the aircraft registration. The controller may state the aircraft type, the model, the manufacturer's name, followed by the ICAO phonetic pronunciation of the numbers/letters of the aircraft registration if used by the pilot on the initial or subsequent call.	***Examples*** *Air traffic controller's initiated call:* *"November One Two Three Four Golf."* *"November One Two Three Four."* *Responding to pilot's initial or subsequent call:* *"Jet Commander One Two Three Four Papa."* *"Bonanza One Two Three Four Tango."* *"Sikorsky Six Three Eight Mike Foxtrot."*
Air taxi and commercial operators not having FAA-authorized call signs – State the prefix "TANGO" on initial contact, if used by the pilot, followed by the registration number. The prefix may be dropped in subsequent communications.	***Examples*** *"Tango Mooney Five Five Five Two Quebec."* *"Tango November One Two Three Four."*

2-6-2 HAZARDOUS INFLIGHT WEATHER ADVISORY SERVICE (HIWAS)

Controllers shall advise pilots of hazardous weather that may impact operations within 150 miles of their area of jurisdiction. The broadcast is not required if aircraft on their frequency(s) will not be affected. Controllers within commissioned HIWAS areas shall broadcast a HIWAS alert on all frequencies except emergency frequency upon receipt of hazardous weather information. Controllers outside commissioned HIWAS areas shall advise pilots of the availability of hazardous weather advisories.

Phraseology	***Examples***
ATTENTION ALL AIRCRAFT, HAZARDOUS WEATHER INFORMATION (SIGMET, Convective SIGMET, AIRMET, Urgent Pilot Weather Report (UUA), or Center Weather Advisory (CWA), (Number or Numbers) FOR (geographical area) AVAILABLE ON HIWAS, FLIGHT WATCH, OR FLIGHT SERVICE.	*"Attention all aircraft, hazardous weather information Center Weather Advisory One Four Central, for central Oklahoma available on HIWAS, flight watch, or flight service."*
NOTE - The inclusion of the type and number of weather advisory is optional.	
ATTENTION ALL AIRCRAFT, HAZARDOUS WEATHER INFORMATION FOR (geographical area) AVAILABLE FROM FLIGHT WATCH OR FLIGHT SERVICE.	*"Attention all aircraft, Hazardous weather information for Alaska coastal area available from flight watch or flight service."*

2-6-3 PIREP INFORMATION

Solicit PIREPs when requested or when appropriate conditions exist. Use the word “GAIN” and/or “LOSS” when describing to pilots the effects of wind shear on airspeed.

Phraseology	***Examples***
REQUEST/SAY FLIGHT CONDITIONS.	*“November Four Two Seven Three Bravo, request flight conditions.”*
REQUEST/SAY (specific conditions - i.e., ride, ceiling, visibility, etc.) CONDITIONS.	*“Delta Four Fifty-Six, request ceiling and visibility conditions over Kansas City.”*
OVER (fix).	
ALONG PRESENT ROUTE.	*“November Three One Four Two Bravo, request ceiling, visibility, and turbulence conditions along present route.”*
BETWEEN (fix) AND (fix).	*“November Three One Four Two Bravo, request ceiling, visibility, and turbulence conditions between Denver and Cheyenne.”*
	“Delta Seven Twenty-One, A Boeing Seven Twenty-seven previously reported wind shear, loss of two five knots at four hundred feet.”
	“Cactus Seventy-Six, a D-C Niner previously reported wind shear, gain of twenty-five knots between niner hundred and six hundred feet, followed by a loss of five zero knots between five hundred feet and the surface.”

2-6-4 WEATHER AND CHAFF SERVICES

Issue pertinent information on observed or reported weather or chaff areas. Provide radar navigational guidance and/or approve deviations around weather or chaff areas when requested by the pilot. Do not use the word "turbulence" in describing radar-derived weather.

In areas of significant weather, plan ahead and be prepared to suggest, upon pilot request, the use of alternative routes/altitudes.

Inform any tower for which you provide approach control services if you observe any weather echoes on radar that might affect their operations.

Phraseology

WEATHER/CHAFF AREA BETWEEN (number) O'CLOCK AND (number) O'CLOCK (number) MILES.

(Number) MILE BAND OF WEATHER/CHAFF FROM (fix or number of miles and direction from fix) TO (fix or number of miles and direction from fix).

LEVEL (number) WEATHER ECHO BETWEEN (number) O'CLOCK AND (number) O'CLOCK, (number) MILES. MOVING (direction) AT (number) KNOTS, TOPS (altitude).

DEVIATION APPROVED, (restrictions if necessary), ADVISE WHEN ABLE TO RETURN TO COURSE/RESUME OWN NAVIGATION/FLY HEADING (heading)/PROCEED DIRECT TO (name of NAVAID). UNABLE DEVIATION (state possible alternate courses of action).

Examples

"U-S Air Seventy-Three, chaff area between eight o'clock and eleven o'clock five miles."

"Block Three Three, one zero mile band of weather from five zero miles east of Reno to two zero miles west of Ely."

"Task Two Two, level four weather echo between four o'clock and seven o'clock, one zero miles. Moving southwest at two five knots, tops flight level four five zero."

"November One Four Three Two Lima, deviation approved, descend and maintain niner thousand, advise when able to return to course."

"Navajo Three Six Mike, deviation approved, advise when able to resume own navigation."

"November Six Two Seven Four Uniform, deviation approved, advise when able to fly heading two six zero."

"Ajax Eight Eight, proceed direct to Memphis VORTAC. Unable deviation; radar vectors Jackson available."

2-7-2 ALTIMETER SETTING ISSUANCE BELOW LOWEST USABLE FL

TERMINAL: Identify the source of an altimeter setting when issued for a location other than the aircraft's departure or destination airport.

EN ROUTE: Identify the source of all altimeter settings when issued.

Phraseology

THE (facility name) (time of report if more than 1 hour old) ALTIMETER (setting).

Example

"U-S Air Sixty-Three, the Tulsa two three five five altimeter two niner niner four."

When the barometric pressure is greater than 31.00 inches Hg., issue the altimeter setting. Advise En Route/Arrival aircraft to remain set on 31.00 until reaching final approach segment. Advise departures to set altimeter 31.00 prior to reaching any mandatory/crossing altitude or 1,500 feet AGL, whichever is lower.

Phraseology

ALTIMETER, (current setting), SET THREE ONE ZERO ZERO UNTIL REACHING THE FINAL APPROACH FIX.

ALTIMETER, (current setting), SET THREE ONE ZERO ZERO PRIOR TO REACHING (altitude).

Examples

"Cloud Four Four, altimeter, three one zero niner, set three one zero zero until reaching the final approach fix."

"Mabel Five Seven, altimeter, three one one one, set three one zero zero prior to reaching three thousand."

2-8-3 RVR/RVV TERMINOLOGY	
Provide RVR/RVV information by stating the runway, the abbreviation RVR/RVV, and the indicated value.	***Example*** *"Runway One Four RVR two thousand four hundred."*
When two or more RVR systems serve the runway in use, report the indicated values for the different systems in terms of touchdown, mid, and rollout as appropriate.	***Examples*** *"Runway Two Two Left RVR two thousand, rollout one thousand eight hundred."* *"Runway Two Seven Right RVR one thousand eight hundred, mid eight hundred, rollout six hundred."*
When there is a requirement to issue an RVR or RVV value, and a visibility condition greater or less than the reportable values of the equipment is indicated, state the condition as "MORE THAN" or "LESS THAN" the appropriate minimum or maximum readable value.	***Examples*** *"Runway Three Six RVR more than six thousand."* *"Runway Niner RVR one thousand, rollout less than six hundred."*
When a readout indicates a rapidly varying visibility condition (1,000 feet or more for RVR; one or more reportable values for RVV), report the current value followed by the range of visibility variance.	***Examples*** *"Runway Two Four RVR two thousand, variable one thousand six hundred to three thousand."* *"Runway Three One RVV three-quarters, variable one-quarter to one."*
2-9-2 AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS) OPERATING PROCEDURES	
Broadcast on all appropriate frequencies to advise aircraft of a change in the ATIS code/message.	***Examples*** *"Piper Two Three Whiskey, verify you have information Alpha."* *"Information Bravo now current, visibility three miles."* *"Information Charlie current, advise when you have Charlie."*

2-9-3 ATIS CONTENT

Include the following in ATIS broadcast as appropriate:

1. Airport/Facility name
2. Phonetic letter code
3. Time of weather sequence (UTC)
4. Weather information
   - Wind direction/velocity
   - Visibility
   - Obstruction to vision
   - Present weather
   - Sky condition
   - Temperature
   - Dew point
   - Weather observation remarks (Lightning, cumulonimbus, towering cumulus clouds)
5. Approach(es) & Runway (if needed) in use
6. Departure runway(s) only if different from landing runway(s)
7. NOTAMs/PIREPs/HIWAS/Bird activity
8. Braking action (as appropriate)
9. Optional local information
10. Low-level wind shear/microburst
11. Hold short readback instructions (optional)
12. ATIS receipt instructions

When runway braking action or friction reports are provided, issue the time of the report and a word describing the cause of the runway friction problem.

Example

"Boston Tower Information Delta. One four zero zero Zulu. Wind two five zero at one zero. Visibility one zero. Ceiling four thousand five hundred broken. Temperature three four. Dew point two eight. Altimeter three zero one zero. ILS DME Runway Two Seven Approach in use. Departing Runway Two Two Right. Hazardous weather information for Eastern Massachusetts available on HIWAS, Flight Watch, or Flight Service frequencies. Advise on initial contact you have Delta."

Phraseology

RUNWAY (number) MU (first value, second value, third value) AT (time), (cause).

(ref. 7210.3, par. 10-4-1)

Examples

"Runway Two Seven, MU forty-two, forty-one, twenty-eight at one zero one eight Zulu, ice."

NOTE -

Ensure that speech rate does not exceed 100 words per minute, enunciation is of the highest quality, and each part of the message is easily understood.

Part-time towers that have ATIS capabilities should record for continuous broadcast the local tower closure time, the common traffic advisory frequency, the radio-controlled approach light frequency, the FAA facility and frequency for additional information and the local tower opening time.

(ref. 7210.3, par. 10-4-1)

"Bakersfield Tower suspended operation at two three zero zero local time, the common traffic advisory frequency is one one eight point one, pilot controlled approach and runway lights are available on frequency one one eight point one. Bakersfield Tower will resume operation at zero seven zero zero local time."

AIRPORT TRAFFIC CONTROL PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 3 of the 7110.65.

3-1-3 USE OF ACTIVE RUNWAYS

When the local controller authorizes another controller to cross an active runway, the local controller shall verbally specify the runway to be crossed preceded by the word "CROSS."

Phraseology

CROSS (runway) AT (intersection if necessary).

Example

"Cross Runway Three Six at Bravo."

3-1-5 VEHICLES/EQUIPMENT/PERSONNEL ON RUNWAYS

Vehicles, equipment, and personnel in direct communications with the control tower may be authorized to operate up to the edge of an active runway surface when necessary.

Phraseology

PROCEED AS REQUESTED; and, if necessary, (additional instructions or information).

Example

"Mobile Two, proceed as requested; advise when operation is terminated."

3-1-6 TRAFFIC INFORMATION

Describe vehicles, equipment, or personnel on or near the movement area in a manner which will assist pilots in recognizing them.

Examples

"Mower left of Runway Two Seven."

"Trucks crossing approach end of Runway Two Five."

"Workman on Taxiway Bravo."

"Aircraft left of Runway One Eight."

Describe the relative position of traffic in an easy-to-understand manner, such as "to your right" or "ahead of you."

Examples

"Traffic, Eastern D-C Niner on downwind leg to your left."

"Traffic, King air inbound from outer marker on straight-in approach to Runway One Seven."

3-1-8 LOW-LEVEL WIND SHEAR ADVISORIES

Controllers shall issue the alert to all arriving and departing aircraft until the alert is broadcast on the ATIS and pilots indicate they have received the appropriate ATIS code. A statement shall be included on the ATIS for 20 minutes following the last report or indication of wind shear.

Phraseology

LOW LEVEL WIND SHEAR (or MICROBURST, as appropriate) ADVISORIES IN EFFECT.

Example

"Low level wind shear advisories in effect."

"Microburst advisories in effect."

3-1-8 LOW-LEVEL WIND SHEAR ADVISORIES (Cont'd)

If an alert is received, issue the airport wind and the displayed field boundary wind.

Phraseology

WIND SHEAR ALERT. AIRPORT WIND (direction) AT (velocity). (Location of sensor) BOUNDARY WIND (direction) AT (velocity).

Example

"Wind shear alert. Airport Wind three six zero at one five. Southeast boundary wind one two zero at two zero."

If multiple alerts are received, issue an advisory that there are wind shear alerts in two/several/all quadrants. After issuing the alert, issue the airport wind and the displayed field boundary wind.

Phraseology

WIND SHEAR ALERTS TWO/SEVERAL/ALL QUADRANTS. AIRPORT WIND (direction) AT (velocity). (Location of sensor) BOUNDARY WIND (direction) AT (velocity).

Example

"Wind shear alerts several quadrants. Airport Wind two seven zero at six. Northwest boundary wind three six zero at one eight."

At facilities equipped with LLWAS "Network Expansion" (LLWAS NE), if a wind shear or microburst alert is received for the runway in use, issue the alert information for that runway to arriving and departing aircraft as it is displayed on the ribbon display.

Phraseology

(Runway) (arrival/departure) WIND SHEAR/MICROBURST ALERT, (wind speed) KNOT GAIN/LOSS, (location).

Examples

RIBBON DISPLAY:
17A MBA 40K - 3MF

"Runway One Seven arrival microburst alert four zero knot loss three mile final."

RIBBON DISPLAY:
17D WSA 25K+ 2MD

"Runway One Seven departure wind shear alert two zero knot gain two mile departure."

If requested by the pilot or deemed appropriate by the controller, issue the displayed wind information oriented to the threshold or departure end of the runway.

Phraseology

(Runway) DEPARTURE/THRESHOLD WIND (direction AT (velocity).

Example

"Runway Two Eight Right departure wind three six zero at one five."

3-1-8 LOW-LEVEL WIND SHEAR ADVISORIES (Cont'd)

If alerts occur on the edge of the system:

Phraseology

(Appropropriate wind or alert information) POSSIBLE WIND SHEAR OUTSIDE THE NETWORK.

Example

"Airport Wind two seven zero at six. Possible wind shear outside the network."

If unstable conditions produce multiple alerts, issue an advisory of multiple wind shear/microburst alerts followed by specific alert or wind information.

Phraseology

MULTIPLE WIND SHEAR/MICROBURST ALERTS (specific alert or wind information).

Example

"Multiple wind shear/microburst alerts. Runway Two Eight Right departure wind three six zero at one five."

3-1-9 USE OF TOWER RADAR DISPLAYS

Uncertified tower display workstations shall be used only as an aid to assist controllers in visually locating aircraft or in determining their spatial relationship to known geographical points. Radar services and traffic advisories are not to be provided using uncertified tower display workstations. General information may be given in an easy-to-understand manner, such as "to your right" or "ahead of you."

Examples

"Bonanza Six Eight Mike Sierra, follow the aircraft ahead of you passing the river at the stacks."

"Cessna Six One Four, traffic a King Air passing left to right."

Local controllers may provide a direction or suggested headings to VFR aircraft as a method for radar identification or as an advisory aid to navigation.

Phraseology

(Identification), PROCEED (direction)-BOUND, (other instructions or information as necessary).

Or

(Identification), SUGGESTED HEADING (degrees), (other instructions as necessary).

Examples

"Cheyenne Niner Papa Alfa, proceed northeastbound, I will advise when to turn base."

"Queenair Two Seven Golf, suggested heading one three zero, follow the Twin Cessna when aircraft is in sight."

Local controllers may provide information and instructions to aircraft operating within the surface area for which the tower has responsibility.

Example

"November Four Three Seven Two Papa, turn base now."

3-1-10 OBSERVED ABNORMALITIES	
When requested by a pilot or when you deem necessary, inform an aircraft of any observed abnormal aircraft condition. ***Phraseology*** (*Identification), (item*) *APPEAR(S)* (*observed condition*).	 ***Examples*** *"November One Four Four Three Bravo, landing gear appears down."* *"November Six Four Seven Niner Papa, rear baggage door appears open."*
3-1-13 ESTABLISHING TWO-WAY COMMUNICATIONS	
Pilots are required to establish two-way communications before entering the Class D airspace. If the controller responds to a radio call with, "(a/c call sign) stand by," radio communications have been established and the pilot can enter the Class D airspace. If workload or traffic conditions prevent immediate provision of Class D services, inform the pilot to remain outside of the Class D airspace until conditions permit the services to be provided. ***Phraseology*** *(A/C call sign) REMAIN OUTSIDE DELTA AIRSPACE AND STAND BY*.	 ***Example*** *"November One Four Four Three Bravo, Prescott Tower, remain outside Delta airspace and stand by."*
3-3-1 LANDING AREA CONDITION	
If you are unable to contact the airport management or operator, issue a Notice to Airmen publicizing an unsafe condition and inform the management or operator as soon as practicable. Issue to aircraft only factual information as reported by the airport management concerning the condition of the runway surface and describing the accumulation of precipitation.	***Example*** *"Notice To Airmen, disabled aircraft on Runway Two Three."* ***Example*** *"All runways covered by compacted snow six inches deep."*

3-3-2 CLOSED/UNSAFE RUNWAY INFORMATION

If an aircraft requests to take off, land, or touch-and-go on a closed or unsafe runway, inform the pilot the runway is closed or unsafe. If the pilot persists in his/her request, quote the appropriate parts of the Notice to Airmen and inform him/her that a clearance cannot be issued. If the pilot insists, and in your opinion the intended operation would not adversely affect other traffic, inform him/her that it will be at his/her own risk.

Phraseology	**Examples**
RUNWAY (number) CLOSED/UNSAFE.	*"Cherokee Seven Seven Papa, Runway Three Two closed."*
If appropriate, (quote Notice to Airmen information), UNABLE TO ISSUE DEPARTURE/LANDING/TOUCH-AND-GO CLEARANCE.	*"Cherokee Seven Seven Papa, Notice To Airmen, Runway Three Two closed for repairs, unable to issue touch-and-go clearance."*
DEPARTURE/LANDING/TOUCH-AND-GO WILL BE AT YOUR OWN RISK.	*"Cherokee Seven Seven Papa, landing will be at your own risk."*

3-3-4 BRAKING ACTION

Furnish quality of braking action, as received from pilots or the airport management, to all aircraft.

Example

"November Four One Six One Romeo, braking action poor, reported by a Boeing Seven Twenty-Seven."

Describe the quality of braking action using the terms "good," "fair," "poor," "nil," or a combination of these terms.

Example

"November Four One Six One Romeo, braking action fair to poor, reported by a Heavy D-C Ten."

If the braking action report affects only a portion of a runway, obtain enough information from the pilot or airport management to describe the braking action in terms easily understood by the pilot.

Examples

"November Four One Six One Romeo, braking action poor first half of runway, reported by a Heavy L-Ten Eleven."

"November Four One Six One Romeo, braking action poor beyond the intersection of Runway Two Seven, reported by a Boeing Seven Twenty-Seven."

Furnish information, as received from the airport management, to pilots on the ATIS where friction measuring devices are in use.

Example

"Alfa Golf Three One, Runway Two Seven, M-U forty-two, forty-one, twenty-eight at one zero one eight Zulu, ice."

3-3-4 BRAKING ACTION (Cont'd)	
Issue the runway surface condition and/or the Runway Condition Reading (RCR), if provided, to all USAF and ANG aircraft. Issue the RCR to other aircraft upon pilot request.	***Example*** *"Cactus Eight Eleven, ice on runway, RCR zero five, patchy."*
3-3-5 BRAKING ACTION ADVISORIES	
During the time Braking Action Advisories are in effect but no report has been received for the runway of intended use, issue an advisory stating that condition.	
Phraseology	***Example***
NO BRAKING ACTION REPORTS RECEIVED FOR RUNWAY (number).	*"Cheyenne Eight One Echo, no braking action reports received for Runway One Eight."*
3-3-6 ARRESTING SYSTEM OPERATION	
Advise aircraft when landing/departing over a barrier/cable in the raised position.	
Phraseology	***Examples***
YOUR DEPARTURE/LANDING WILL BE TOWARD/ OVER A RAISED BARRIER/CABLE ON RUNWAY (number), (location, distance, as appropriate).	*"Marine Two Four Five, your landing will be over a raised barrier on Runway Two Three, five hundred feet southwest of the threshold."* *"Lear Six One Golf Alfa, Runway One Four arresting cable one thousand feet from threshold."*
(Identification), BARRIER/CABLE INDICATES UP/ DOWN. CLEARED FOR TAKEOFF/TO LAND.	*"Navy Alfa Papa Four One, barrier indicates up. Cleared to land."*
3-3-7 FAR FIELD MONITOR (FFM) REMOTE STATUS UNIT	
When the remote status unit indicates that the localizer FFM is in alarm (aural warning following the preset delay) and the aircraft is between the MM and the Inner Marker (IM), immediately issue an advisory that the FFM remote status sensing unit indicates the localizer is unreliable.	
Phraseology	***Example***
CAUTION, MONITOR INDICATES RUNWAY (number) LOCALIZER UNRELIABLE.	*"Lurid Eight Eight, caution, monitor indicates Runway Two Seven localizer unreliable."*

3-6-3 INFORMATION USAGE (ASDE)	
Provide directional taxi information on pilot request.	
Phraseology	***Example***
TURN (left/right) ON THE TAXIWAY/RUNWAY YOU ARE APPROACHING.	*"November Seven Seven Papa Golf, turn right on the taxiway you are approaching."*

3-7-1 GROUND TRAFFIC MOVEMENT	
State the runway intersection when authorizing an aircraft to taxi into position to hold or when clearing an aircraft for takeoff from an intersection.	
Phraseology	***Examples***
RUNWAY (number) AT (taxiway designator) (further instructions as needed).	*"Grumman Seven Seven Lima, Runway one eight at Charlie cleared for takeoff."*
RUNWAY (number) AT (taxiway designator), POSITION AND HOLD.	*"Grumman Seven Seven Lima, Runway one eight at Charlie, position and hold."*
RUNWAY (number) AT (taxiway designator) INTERSECTION DEPARTURE, (remaining length) FEET AVAILABLE.	*"Grumman Seven Seven Lima, Runway one eight at Charlie intersection departure, five thousand feet available."*
If two or more aircraft call the tower ready for departure, one or more at the approach and one or more at the intersection, state the location of the aircraft at the full length of the runway when authorizing that aircraft to taxi into position and hold or when clearing that aircraft for takeoff.	
Phraseology	***Examples***
RUNWAY (number) FULL LENGTH, POSITION AND HOLD.	*"American Four Eighty-Two, Runway Three Zero full length, position and hold."*
Or	
RUNWAY (number) FULL LENGTH, CLEARED FOR TAKEOFF.	*"Cherokee Five Sierra Whiskey, Runway Two Five Right full length, cleared for takeoff."*

3-7-2 TAXI AND GROUND MOVEMENT OPERATIONS

Issue, as required or requested, the route for the aircraft/vehicle to follow on the movement area in concise and easy-to-understand terms. When a taxi clearance is issued to an aircraft, confirm the aircraft has the correct runway assignment.

Phraseology	***Examples***
HOLD POSITION.	*"Piper Eight Seven Papa, hold position."*
HOLD FOR (reason).	*"November One Eight Two Five Mike, hold for landing traffic."*
CROSS (runway/taxiway).	*"November Four Four Three Seven Charlie, cross Runway One Eight."*
TAXI/CONTINUE TAXIING/PROCEED/VIA (route) *ON (runway number or taxiways, etc.).*	*"November Five Eight One Two X-Ray, continue taxiing, proceed on Runway One Four."*
TO (location). *(Direction).*	*"November One Two X-Ray, taxi to Runway Two Four."* *"November One Two X-Ray, read back runway assignment."*

Phraseology	***Examples***
ACROSS RUNWAY (number).	*"November Niner One Eight Seven Mike, taxi across Runway Three Four."*
VIA (route), HOLD SHORT OF (location)	*"November Four Six Three Niner Julliett, taxi via Taxiway Bravo, hold short of Runway One Six."* *Or* *"November Four Six Three Niner Julliett, taxi via Bravo, hold short of Runway One Six."*
FOLLOW (traffic) (restrictions as necessary)	*"November Five Five Five Bravo, follow the Southwest Seven Thirty-Seven, hold short of Runway Four."*
BEHIND (traffic).	*"November One Four Three Bravo, taxi behind the Bonanza."*

3-7-2 TAXI AND GROUND MOVEMENT OPERATIONS (Cont'd)

When authorizing an aircraft to taxi to an assigned takeoff runway and hold short instructions are not issued, specify the runway preceded by "taxi to," and issue taxi instructions if necessary. This authorizes the aircraft to "cross" all runways/taxiways which the taxi route intersects except the assigned takeoff runway. This does not authorize the aircraft to "enter" or "cross" the assigned takeoff runway at any point. Specify the runway for departure, any necessary taxi instructions, and hold short restrictions when an aircraft will be required to hold short of a runway or other points along the taxi route. Request a readback of runway hold short instructions when they are not received from the pilot/vehicle operator.

Phraseology	***Examples***
TAXI TO RUNWAY (number) VIA...	*"November One Eight Two Five Mike, taxi to Runway Four via Taxiway Alfa."* *Or* *"November One Eight Two Five Mike, taxi to Runway Four via Alfa."*
RUNWAY (number), TAXI/PROCEED VIA (route if necessary), HOLD: *SHORT OF RUNWAY (number),*	*"Delta Sixteen, Runway Three Six Left, taxi via Taxiway Charlie, hold short of Runway Two Seven Right."* *Or* *"Delta Sixteen, Runway Three Six Left, taxi via Charlie, hold short of Runway Two Seven Right."*
HOLD SHORT OF (location), *ON (taxi strip, runup pad, etc.),* *and, if necessary,*	*"Queen Air Seven Six Mike, hold short of Taxiway Golf."* *Or* *"Queen Air Seven Six Mike, hold short of Golf."*
TRAFFIC (traffic information), FOR (reason).	*"November Three Six Three Five Quebec, hold short of Runway Two Seven Right. Traffic landing Runway Two Seven Right."*

3-7-2 TAXI AND GROUND MOVEMENT OPERATIONS (Cont'd)	
Issue the route for the aircraft/vehicle to follow on the movement area in concise and easy to understand terms. The taxi clearance shall include the specific route to follow. When a taxi clearance to a runway is issued to an aircraft, confirm the aircraft has the correct runway assignment. Request a read back of runway hold short instructions when it is not received from the pilot/vehicle operator.	
Phraseology	***Examples***
READ BACK HOLD INSTRUCTIONS.	*"American Four Ninety-Two, Runway Three Six Left, taxi via taxiway Charlie, hold short of Runway Two Seven Right."* *"American Four Ninety-Two, roger."* *"American Four Ninety-Two, read back hold instructions."* *"Cleveland Tower, American Sixty-Three is ready for departure."* *"American Sixty-Three, hold short of Runway Two Three Left, traffic one mile final."* *"American Sixty-Three, roger."* *"American Sixty-Three, read back hold instructions."* *"OPS Three, proceed via Taxiway Charlie, hold short of Runway Two Seven."* *"OPS Three, roger."* *"OPS Three, read back hold instructions."*
TAXI WITHOUT DELAY (traffic if necessary).	*"Aztec Four Five Whiskey, taxi without delay, traffic will hold for you."*
EXIT/PROCEED/CROSS (runway/taxiway) WITHOUT DELAY.	*"America Three Twenty-Five, cross Runway Four Left without delay."*
3-7-4 RUNWAY PROXIMITY	
Hold a taxiing aircraft/vehicle clear of the runway by instructing the aircraft/vehicle to hold short of a specific runway/point. Issue traffic information as necessary.	
Phraseology	***Example***
HOLD SHORT OF/AT (runway number or specific point), (traffic or other information).	*"November Eight Eight Eight Quebec, hold short of Runway Two Two for landing traffic."*

3-7-5 PRECISION APPROACH CRITICAL AREA

Aircraft and vehicle access to the ILS/MLS critical area must be controlled to ensure the integrity of ILS/MLS course signals whenever conditions are less than reported ceiling 800 feet and/or visibility less than 2 miles. Do not authorize vehicle/aircraft to operate in or over the critical area, except as specified in subparagraph 3-84a1, whenever an arriving aircraft is inside the ILS Outer Marker (OM), or the fix used in lieu of the OM unless the arriving aircraft has reported the runway in sight or is circling to land on another runway.

Phraseology	***Example***
HOLD SHORT OF RUNWAY (number) ILS/MLS CRITICAL AREA.	*"Lamp One, hold short of Runway Four I-L-S critical area."*

Promptly issue an advisory if the critical area will not be protected when an arriving aircraft advises that a "coupled," "CAT III," "autoland," or similar type approach will be conducted and the weather is a reported ceiling of 800 feet or more, and the visibility is less than 2 miles or more.

Phraseology	***Example***
ILS/MLS CRITICAL AREA NOT PROTECTED.	*"U-S Air Sixty-Seven, I-L-S critical area not protected."*

3-8-1 SEQUENCE/SPACING APPLICATION

Establish the sequence of arriving and departing aircraft by requiring them to adjust flight or ground operation as necessary to achieve proper spacing.

Phraseology	***Examples***
CLEARED FOR TAKEOFF.	*"Jetstar Six Two Bravo, cleared for takeoff."*
CLEARED FOR TAKEOFF OR HOLD SHORT/HOLD IN POSITION/TAXI OFF THE RUNWAY (traffic).	*"Cessna Eight Three Papa, cleared for takeoff or taxi off the runway, traffic two mile final."*
EXTEND DOWNWIND.	*"Sport Two Three Alfa, extend downwind."*
MAKE SHORT APPROACH.	*"Cessna Three Three Golf, make short approach."*
NUMBER (landing sequence number),	*"Cherokee Two Six Foxtrot, number four, follow Bonanza on base."*
FOLLOW (description and location of traffic).	*"Cessna Seven Six Mike, follow Bonanza on base."*
CIRCLE THE AIRPORT.	*"Sierra Two Six Bravo, circle the airport."*

3-8-1 SEQUENCE/SPACING APPLICATION (Cont'd)	
Phraseology	**Examples**
TRAFFIC (description and location) LANDING RUNWAY (number of runway being used).	*"Cherokee Niner Five Kilo, traffic Cessna One Seventy-two landing Runway Three Two."*
MAKE LEFT/RIGHT THREE SIXTY/TWO SEVENTY.	*"November Niner Two Seven One Mike, make right three sixty."*
GO AROUND.	*"November Eight Two Six One Lima, go around."*
CLEARED TO LAND.	*"Southwest Sixty-Three, Runway Two Eight Right cleared to land."*
CLEARED TOUCH-AND-GO/STOP-AND-GO/LOW APPROACH.	*"Sport Niner One Lima, Runway Two Eight Left cleared touch-and-go."*
CLEARED FOR THE OPTION.	*"November Eight Eight Eight Quebec, cleared for the option."*
OPTION APPROVED.	
UNABLE OPTION, (alternate instructions).	*"Bonanza One Two Bravo, unable option, cleared touch-and-go."*
UNABLE (type of option), OTHER OPTIONS APPROVED.	*"Bonanza One Two Bravo, unable stop-and-go, other options approved."*

3-8-4 SIMULTANEOUS OPPOSITE DIRECTION OPERATION	
Authorize simultaneous opposite direction operations on parallel runways, on parallel landing strips, or on a runway and a parallel landing strip only when operations are conducted in VFR conditions, two-way radio communication is maintained with the aircraft involved, and pertinent traffic information is issued.	
Phraseology	**Example**
TRAFFIC,(description) ARRIVING/DEPARTING/LOW APPROACH, OPPOSITE DIRECTION ON PARALLEL RUNWAY/LANDING STRIP.	*"Merlin One One X-Ray, traffic, Comanche arriving, opposite direction on parallel runway."*

3-9-2 DEPARTURE DELAY INFORMATION

When gate hold procedures are in effect, issue the departure delay information as appropriate. Advise departing aircraft the time at which the pilot can expect to receive engine startup advisory. Advise departing aircraft when to start engines and/or to advise when ready to taxi. Advise all aircraft on GC/FD frequency upon termination of gate hold procedures.

Phraseology	**Examples**
GATE HOLD PROCEDURES ARE IN EFFECT, ALL AIRCRAFT CONTACT (position) ON (frequency) FOR ENGINE START TIME. EXPECT ENGINE START/TAXI (time).	*"Gate hold procedures are in effect, all aircraft contact clearance delivery on one two one point niner for engine start time. Expect taxi one five minutes after engine start time."*
START ENGINES, ADVISE WHEN READY TO TAXI. *ADVISE WHEN READY TO TAXI.*	*"American Three Forty-Nine, start engines, advise when ready to taxi."*
GATE HOLD PROCEDURES NO LONGER IN EFFECT.	*"Attention all aircraft. Gate hold procedures no longer in effect."*

3-9-3 DEPARTURE CONTROL INSTRUCTIONS

Inform departing IFR, SVFR, VFR aircraft receiving radar service, and TRSA VFR aircraft before takeoff of the appropriate departure control frequency and beacon code.

Phraseology	**Example**
DEPARTURE FREQUENCY (frequency), SQUAWK (code).	*"November Four Six One Niner Papa, departure frequency one one niner point five, squawk four three one seven."*

Inform all departing IFR military turboprop/turbojet aircraft (except transport and cargo types) to change to departure control frequency.

Phraseology	**Example**
CHANGE TO DEPARTURE.	*"Marine Hotel Lima Zero One, change to departure, cleared for takeoff."*

3-9-4 TAXI INTO POSITION AND HOLD (TIPH)

The intent of TIPH is to position aircraft for an imminent departure. Authorize an aircraft to taxi into position and hold, except as restricted in subpararaph e, when takeoff clearance cannot be issued because of traffic. Issue traffic information to any aircraft so authorized. Traffic information may be omitted when the traffic is another aircraft which has landed on or is taking off the same runway and is clearly visible to the holding aircraft. Do not use conditional phrases such as "behind landing traffic" or "after the departing aircraft."

b. *USN NOT APPLICABLE.* First state the runway number followed by the taxi into position clearance when more than one runway is active.

Phraseology

RUNWAY (number), POSITION AND HOLD.

Or, when only one runway is active:

POSITION AND HOLD.

Examples

"United Five, Runway One Eight, position and hold. Traffic a Boeing Seven Thirty-Seven, six-mile final."

"United Fifty, position and hold. Traffic a Boeing Seven Thirty-Seven, six-mile final."

When an aircraft is authorized to taxi into takeoff position to hold, inform it of the closest traffic that is cleared to land, touch-and-go, stop-and-go, or unrestricted low approach on the same or parallel runway separated by less than 2,500 feet.

"United Five, Runway Two Four Left, position and hold. Traffic a Boeing Seven Thirty-Seven, six-mile final, Runway Two Four Right."

Do not authorize an aircraft to taxi into position and hold at an intersection between sunset and sunrise or at anytime when the intersection is not visible from the tower.

When a local controller delivers or amends an ATC clearance to an aircraft awaiting departure, and that aircraft is holding short of a runway or is holding in position on a runway, an additional clearance shall be issued to prevent the possibility of the aircraft inadvertently taxiing onto the runway and/or beginning takeoff roll. In such cases, append one of the following ATC instructions as appropriate.

Phraseology

HOLD SHORT OF RUNWAY.

HOLD IN POSITION.

Examples

"Sport Five Four Lima, after departure, turn right heading two four zero, hold short of Runway Two Eight Right."

"Sierra Three Seven Mike, amend altitude, maintain six thousand, hold in position."

3-9-6 SAME RUNWAY SEPARATION

WAKE TURBULENCE APPLICATION

Inform all aircraft when it is necessary to hold in order to provide the required 3-minute interval.

Phraseology

HOLD FOR WAKE TURBULENCE.

Example

"November Eight Two Four Six Bravo, hold for wake turbulence."

3-9-7 WAKE TURBULENCE SEPARATION FOR INTERSECTION DEPARTURES

Inform an aircraft when it is necessary to hold in order to provide the required 3-minute interval.

Phraseology

HOLD FOR WAKE TURBULENCE.

Example

"Cessna Six One Four, hold for wake turbulence."

When the pilot of a small aircraft conducting touch-and-go or stop-and-go is maintaining visual separation/spacing behind a preceding large aircraft, issue a wake turbulence cautionary advisory and the position of the large aircraft.

Example

"Caution wake turbulence, D-C Niner on base leg."

When the pilot of any aircraft conducting touch-and-go or stop-and-go is maintaining visual separation/spacing behind a preceding heavy aircraft or B-757, issue a wake turbulence cautionary advisory and the position of the heavy aircraft or B-757.

Example

"Caution wake turbulence, heavy Lockheed C-Five-A departing Runway Two Three."

3-9-9 TAKEOFF CLEARANCE

Issue takeoff clearance as appropriate. When more than one runway is active, first state the runway number followed by the takeoff clearance.

Phraseology

CLEARED FOR TAKEOFF.

RUNWAY (number), CLEARED FOR TAKEOFF.

Examples

"Baron Seven Niner Juliett, cleared for takeoff."

"Baron Seven Niner Juliett, Runway Two Seven, cleared for takeoff."

3-9-10 CANCELLATION OF TAKEOFF CLEARANCE

Cancel a previously issued clearance for takeoff and inform the pilot of the reason if circumstances require. Once an aircraft has started takeoff roll, cancel the takeoff clearance only for the purpose of safety.

Phraseology	***Example***
CANCEL TAKEOFF CLEARANCE, (reason).	*"Duchess Seven Six Mike, cancel takeoff clearance, vehicle on runway."*

3-10-1 LANDING INFORMATION

Provide current landing information, as appropriate, to arriving aircraft. Landing information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code. Runway, wind, and altimeter may be omitted if a pilot uses the phrase "have numbers." Issue landing information by including specific traffic pattern information (may be omitted if the aircraft is to circle the airport to the left).

Phraseology	***Examples***
ENTER LEFT/RIGHT BASE.	*"Cheetah Eight Six Kilo, enter left base."*
STRAIGHT-IN.	
MAKE STRAIGHT-IN.	*"November Seven Juliett Mike, make straight-in."*
STRAIGHT-IN APPROVED.	
RIGHT TRAFFIC.	
MAKE RIGHT TRAFFIC.	
RIGHT TRAFFIC APPROVED. CONTINUE.	*"November One Two Whiskey, right traffic approved. Continue."*

3-10-3 SAME RUNWAY SEPARATION

WAKE TURBULENCE APPLICATION

Issue wake turbulence cautionary advisories and the position, altitude if known, and direction of flight of:

- The heavy jet or B-757 to aircraft landing behind a departing/arriving heavy jet or B-757 on the same or parallel runways separated by less than 2,500 feet
- The large aircraft to a small aircraft landing behind a departing/arriving large aircraft on the same or parallel runways separated by less than 2,500 feet

Examples

"Twin Cessna Two One Uniform, Runway Two Seven Left cleared to land, caution wake turbulence, Heavy Boeing Seven Forty-Seven departing Runway Two Seven Right."

"Seneca Three Eight Zero Mike, number two to land, following a Heavy Lockheed C-Five-A on two-mile final. Caution wake turbulence."

"Cessna Six One Four cleared to land, caution wake turbulence, Boeing Seven Twenty-Seven departing Runway One Six."

3-10-4 INTERSECTING RUNWAY SEPARATION

Instruct the landing aircraft to hold short of the intersecting runway being used by the aircraft taking off. In the case of simultaneous landings and no operational benefit is lost, restrict the aircraft in the lesser group. Issue traffic information to both aircraft involved and obtain an acknowledgment from each.

Phraseology

HOLD SHORT OF RUNWAY (number), (traffic or other information).

Examples

"*Twin Beech One Six Uniform, Runway One Eight cleared to land, hold short of Runway One Four Left, traffic landing Runway One Four Left.*"

"November Six Niner Foxtrot, Runway One Four Left cleared to land, traffic landing Runway One Eight will hold short of the intersection."

"Navajo Seven Two Charlie, Runway Three Six cleared to land, hold short of Runway Three Three, traffic departing Runway Three Three."

"November Three One Echo, traffic landing Runway Three Six will hold short of the intersection, Runway Three Three cleared for takeoff."

READ BACK HOLD INSTRUCTIONS.

"Twin Beech One Six Uniform, readback hold instructions."

Issue the measured distance from the landing threshold to the hold short point rounded down to the nearest 50-foot increment if requested by either aircraft.

Example

"Sport Five Four Lima, five thousand fifty feet available."

WAKE TURBULENCE APPLICATION

Issue wake turbulence cautionary advisories and the position, altitude if known, and direction of flight of the heavy jet or B-757 to IFR/VFR aircraft landing on crossing runways behind a departing heavy jet or B-757 if the arrival flight path will cross the takeoff path behind the heavy jet or B-757 and behind the heavy jet or B-757 rotation point. Additionally, issue the advisory to VFR aircraft landing on a crossing runway behind an arriving heavy jet or B-757 if the arrival flight paths will cross.

Examples

"Cherokee Two One Uniform, Runway Niner cleared to land. Caution wake turbulence, Heavy C-One Forty-One departing Runway One Five."

"November Seven Two Foxtrot, Runway Niner cleared to land. Caution wake turbulence, Heavy Boeing Seven Forty-Seven landing Runway Three Six."

3-10-5 LANDING CLEARANCE

Issue landing clearance. Restate the landing runway whenever more than one runway is active or an instrument approach is being conducted to a closed runway.

Phraseology

CLEARED TO LAND.

RUNWAY (designator) CLEARED TO LAND.

Examples

"Cherokee Eight One Niner, cleared to land."

"Bolo Eight Eight, Runway Three Six Right cleared to land."

Inform the closest aircraft that is cleared to land, touch-and-go, stop-and-go, or unrestricted low approaches when there is traffic holding on the same or parallel runway separated by less than 2,500 feet.

Examples

"Delta One, cleared to land, traffic holding in position."

"Delta One, Runway One Eight Left, cleared to land, traffic holding in position."

"Delta One, Runway Two Four Right, cleared to land. Traffic holding in position, Runway Two Four Left."

3-10-6 ANTICIPATING SEPARATION

Landing clearance to succeeding aircraft in a landing sequence need not be withheld if you observe the positions of the aircraft and determine that prescribed runway separation will exist when the aircraft cross the landing threshold. Issue traffic information to the succeeding aircraft if not previously reported and appropriate traffic holding in position or departing prior to their arrival.

NOTE - *Landing sequence number is optional at tower facilities where arrivals are sequenced by the approach control.*

Examples

"American Two Forty-Five cleared to land, number two following United Boeing Seven Thirty-Seven two-mile final, traffic will depart prior to your arrival."

"American Two Forty-Five cleared to land, number two following United Boeing Seven Thirty-Seven two-mile final, traffic will be an M-D Eighty-Eight holding in position."

"American Two Forty-Five cleared to land, following United Boeing Seven Thirty-Seven two-mile final, traffic will depart prior to your arrival."

3-10-7 LANDING CLEARANCE WITHOUT VISUAL OBSERVATION	
When an arriving aircraft reports at a position where he/she should be seen but has not been visually observed, advise the aircraft as a part of the landing clearance that it is not in sight and restate the landing runway. ***Phraseology*** *NOT IN SIGHT, RUNWAY (number) CLEARED TO LAND.* ***NOTE -*** *Aircraft observance on the CTRD satisfies the visually observed requirement.*	 ***Example*** *"Breezy One Niner Foxtrot, not in sight, Runway Two Two cleared to land."*
3-10-9 RUNWAY EXITING	
Instruct aircraft where to turn off the runway after landing, when appropriate, and advise the aircraft to hold short of a runway or taxiway if required for traffic. ***Phraseology*** *TURN LEFT/RIGHT (taxiway/runway).* *IF ABLE, TURN LEFT/RIGHT (taxiway/runway),* *and, if required,* *HOLD SHORT OF RUNWAY (number).* Taxi instructions shall be provided to the aircraft by the local controller when compliance with Air Traffic Control (ATC) instructions will be required before the aircraft can change to ground control or when the aircraft will be required to enter a taxiway/runway/ramp area, other than the one used to exit the landing runway, in order to taxi clear of the landing runway. Request a readback of runway hold short instructions when not received from the pilot.	 ***Examples*** *"Comanche Eight Six Papa, turn right Taxiway Delta."* *"November One Two Uniform, if able, turn left next intersection."* *"T-W-A Five Twenty, turn right next taxiway, hold short of Runway One Eight."* ***Examples*** *"U-S Air Ten Forty-Two, turn right next taxiway, cross Taxiway Bravo, hold short of Taxiway Charlie, contact ground point seven."* *Or* *"U-S Air Ten Forty-Two, turn right next taxiway, cross Bravo, hold short of Charlie, contact ground point seven."* *"American Four Ninety-Two, read back hold instructions."*

3-10-10 ALTITUDE RESTRICTED LOW APPROACH

A low approach with an altitude restriction of not less than 500 feet above the airport may be authorized except over an aircraft in takeoff position or a departure aircraft. Do not clear aircraft for restricted altitude low approaches over personnel unless airport authorities have advised these personnel that the approaches will be conducted. Advise the approaching aircraft of the location of applicable ground traffic, personnel, or equipment.

Phraseology

CLEARED LOW APPROACH AT OR ABOVE (altitude). TRAFFIC (description and location).

Example

"Waco Four Five X-Ray, cleared low approach at or above one thousand three hundred. Traffic Cheyenne on the runway."

3-10-11 CLOSED TRAFFIC

Approve/disapprove pilot requests to remain in closed traffic for successive operations subject to local traffic conditions.

Phraseology

LEFT/RIGHT (if required) CLOSED TRAFFIC APPROVED. REPORT (position if required).

UNABLE CLOSED TRAFFIC, (additional information if required.)

Examples

"Cherokee Three Niner Juliett, right closed traffic approved. Report base."

"Gulfstream Six Six Alfa, unable closed traffic, say request."

3-10-12 OVERHEAD MANEUVER

Issue pattern altitude and direction of traffic to arriving aircraft that will conduct an overhead maneuver. (Omit either or both if standard or when you know the pilot is familiar with a nonstandard procedure.)

Phraseology

PATTERN ALTITUDE (altitude). RIGHT TURNS.

Example

"Air Force Niner Four Three, pattern altitude two thousand. Right turns."

Request for report on initial approach.

Phraseology

REPORT INITIAL.

Example

"Fenix Zero Four, report initial."

Specify the point of break only if nonstandard. Request the pilot to report break if required for traffic or other reasons.

Phraseology

BREAK AT (specified point). REPORT BREAK.

Example

"Navy Alfa Kilo One Three, break at midfield. Report break."

3-10-13 SIMULATED FLAMEOUT (SFO) APPROACHES

Military aircraft may be authorized when a letter of agreement exists, traffic is exchanged, and the high-key altitude is obtained prior to approving the approach.

For overhead simulated flameout approaches, request a report at the entry point.

Phraseology	**Example**
REPORT (high or low) KEY (as appropriate).	*"Duddy Five One, report high key."*

Request a report at low key.

Phraseology	**Example**
REPORT LOW KEY.	*"Duddy Five One, report low key."*

At low key, issue low approach clearance or alternate instructions.

For straight-in simulated flameout approaches, request a position report from aircraft conducting straight-in SFO approaches.

Phraseology	**Example**
REPORT (distance) MILE SIMULATED FLAMEOUT FINAL.	*"Jason Two Two, report four mile simulated flameout final."*

3-11-1 HELICOPTER TAXI AND GROUND MOVEMENT OPERATION

Issue helicopter taxi instructions as required.

Phraseology	**Examples**
HOVER-TAXI. CAUTION (dust, blowing snow, loose debris, taxiing light aircraft, personnel, etc.).	*"Hughes Eight X-Ray Papa, hover-taxi across Runway Three Five. Caution field lighting vehicle on your left."*
AIR-TAXI VIA (direct, as requested, or specified route) TO (location, heliport, helipad, operating/movement area, active/inactive runway).	*"Jet Ranger Two Two Juliett, air-taxi via perimeter taxiway to west ramp. Avoid military convoy exiting the Air Guard ramp."*
AVOID (aircraft/vehicles/personnel).	
REMAIN AT OR BELOW (altitude). CAUTION (wake turbulence or other reasons). LAND AND CONTACT TOWER.	*"Hughes Six Six Juliett, remain at or below one thousand. Caution, Cessna entering left downwind. Land and contact tower."*
HOLD FOR (reason--takeoff clearance, release, landing/taxiing aircraft, etc.).	*"Huey One Eight Two Four Mike, hold for taxiing aircraft."*

3-11-2 HELICOPTER TAKEOFF CLEARANCE

Issue takeoff clearance from movement areas other than active runways, or in diverse directions from active runways, with additional instructions, as necessary. Whenever possible, issue takeoff clearance in lieu of extended hover-taxi or air-taxi operations.

Phraseology

(Present position, taxiway, helipad, numbers) MAKE RIGHT/LEFT TURN FOR (direction, points of compass, heading, NAVAID radial) DEPARTURE/DEPARTURE ROUTE (number, name, or code), AVOID (aircraft/vehicles/personnel),

REMAIN (direction) OF (active runways, parking areas, passenger terminals, etc.).

CAUTION, (power lines, unlighted obstructions, trees, wake turbulence, etc.).

CLEARED FOR TAKEOFF.

Examples

"Jet Ranger Eight One Papa, Helipad Foxtrot, make left turn for southwest departure, cleared for takeoff."

"Jet Ranger Eight One Papa, from Helipad Foxtrot, make left turn for southwest departure, avoid fuel truck proceeding south on Taxiway Alfa, cleared for takeoff."

"Jet Ranger Eight One Papa, from Helipad Foxtrot, make left turn for southwest departure, remain west of Runway Three Six, caution, crane in raised position one quarter mile south of airport, cleared for takeoff."

If takeoff is requested from nonmovement areas and, in your judgment, the operation appears to be reasonable, use the following phraseology instead of the takeoff clearance.

Phraseology

PROCEED AS REQUESTED, USE CAUTION, (reason and additional instructions, as appropriate).

Example

"Enstrom Niner Niner Three, proceed as requested, use caution, light aircraft parked in your vicinity."

If takeoff is requested from an area not visible, an area not authorized for helicopter use, an unlighted nonmovement area at night, or an area off the airport, and traffic is not a factor, use the following phraseology.

Phraseology

DEPARTURE FROM (requested location) WILL BE AT YOUR OWN RISK. (Reason and additional instructions, as necessary).

TRAFFIC (as applicable),

TRAFFIC NOT A FACTOR.

Example

"Hughes One Four Uniform, departure from the warehouse area will be at your own risk. Area not visible from the tower, traffic is a Cessna two miles west of the airport."

3-11-6 HELICOPTER LANDING CLEARANCE

Issue landing clearance for helicopters to movement areas other than active runways, or from diverse directions to points on active runways, with additional instructions, as necessary. Whenever possible, issue landing clearances in lieu of extended hover-taxi or air-taxi operations.

Phraseology	**Examples**
MAKE APPROACH STRAIGHT-IN/CIRCLING LEFT/ RIGHT TURN TO (location, runway, taxiway, helipad, Maltese cross) ARRIVAL/ARRIVAL ROUTE (number, name, or code).	*"Huey Three Six November, make approach straight-in to Helipad Alfa."*
HOLD SHORT OF (active runway, extended runway centerline, other).	*"Huey Three Six November, hold short of Runway One Four."*
REMAIN (direction/distance: e.g., 700 feet, 1 1/2 miles) FROM (runway, runway centerline, other helicopter/aircraft).	*"Hughes Four Four Bravo, remain one mile south from Runway Niner centerline."*
CAUTION, (power lines, unlighted obstructions, wake turbulence, etc.). *CLEARED TO LAND.*	*"Jet Ranger Eight Six Juliett, caution, unlighted crane vicinity south boundary of airport. Cleared to land."*
CONTACT GROUND.	
AIR TAXI TO RAMP.	

If landing is requested to nonmovement areas and, in your judgment, the operation appears to be reasonable, use the following phraseology instead of the landing clearance.

Phraseology	**Example**
PROCEED AS REQUESTED, USE CAUTION (reason and additional instructions, as appropriate).	*"Huey Three Three Six, proceed as requested, use caution for vehicular traffic."*

If landing is requested to an area not visible, an area not authorized for helicopter use, an unlighted nonmovement area at night, or an area off the airport, and traffic is not a factor, use the following phraseology instead of the landing clearance.

Phraseology	**Examples**
LANDING AT (requested location) WILL BE AT YOUR OWN RISK. (reason and additional instructions, as necessary).	*"Bell Eight Two Foxtrot, landing at Viney Airport will be at your own risk. Parachute jumping is in progress at Viney Airport."*
TRAFFIC (as applicable). *TRAFFIC NOT A FACTOR.*	*"Huey Five Five Tango, landing will be at your own risk, traffic is a Twin Otter departing Runway Two Seven."*

IFR PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 4 of the 7110.65.

4-2-2 CLEARANCE PREFIX

Prefix a clearance, information, or a request for information which will be relayed to an aircraft through a non-ATC facility by stating, "ATC clears," "ATC advises," or "ATC requests."

Example

"A-T-C clears Southwest Thirty from Enid Airport to Tulsa Airport as filed. Maintain one five thousand."

4-2-5 ROUTE OR ALTITUDE AMENDMENTS

Amend route of flight in a previously issued clearance by either: stating which portion of the route is being amended and then the amendment; stating the amendment to the route and then that the rest of the route is unchanged; or by issuing the entire route by stating the amendment. Issue a clearance directly to a point on the previously issued route.

Phraseology

CHANGE (portion of route) TO READ (new portion of route),

(amendment route) REST OF ROUTE UNCHANGED.

CLEARED DIRECT (FIX).

Examples

"Cessna Two One Alfa, change Victor Forty-One, Delta, to read Victor Forty-One, Frank, Victor Seventy-One, Delta, rest of route unchanged."

"Cessna Two One Alfa, cleared via Victor Forty-One, Frank, Victor Seventy-One, Delta, Victor One Seventy-Four, Alfa V-O-R, direct Airville Airport, maintain niner thousand."

When the route or altitude in a previously issued clearance is amended, restate all applicable altitude restrictions.

NOTE - *Restating a previously issued altitude to "maintain" is an amended clearance. If the altitude to "maintain" is changed or restated, whether prior to departure or while airborne, and if previously issued altitude restrictions are omitted, then altitude restrictions are canceled, including SID/FMSP/STAR altitude restrictions if any.*

Example

A departing aircraft is cleared to cross Ollis intersection at or above 3,000; cross Gordonsville VOR at or above 12,000; and maintain FL200. Shortly after departure, the altitude to be maintained is changed to FL240. Because altitude restrictions remain in effect, the controller issues an amended clearance as follows:

"Northwest One Eleven, amend altitude. Cross Ollis intersection at or above three thousand, cross Gordonsville V-O-R at or above one two thousand, maintain Flight Level Two Four Zero."

Shortly after departure, altitude restrictions are no longer applicable. The controller issues an amended clearance as follows:

"Northwest One Eleven, climb and maintain Flight Level Two Four Zero."

4-2-5 ROUTE OR ALTITUDE AMENDMENTS (Cont'd)	
Issue an amended clearance if a speed restriction is declined because it cannot be complied with concurrently with a previously issued altitude restriction. **NOTE -** *The phrase "do the best you can" or comparable phrases are not valid substitutes for an amended clearance with altitude or speed restrictions.*	***Example*** An aircraft is cleared to cross Gordonsville VOR at 11,000. Shortly thereafter, the pilot is cleared to reduce his/her airspeed to 300 knots. The pilot informs the controller that he/she is unable to comply with both clearances simultaneously. The controller issues an amended clearance as follows: *"Citation Eight Four Lima, cross Gordonsville V-O-R at one one thousand. Then, reduce speed to three zero zero."*
4-2-6 THROUGH CLEARANCES	
You may clear an aircraft through intermediate stops. ***Phraseology*** *CLEARED THROUGH (airport) TO (fix).*	***Example*** *"Baron Seven Three Quebec, cleared through Pine Bluff Airport to Monroe Airport."*
4-2-7 ALTRV CLEARANCES	
Use the phrase "via approved altitude reservation flight plan" if the aircraft will operate in an approved ALTRV. ***Phraseology*** *VIA APPROVED ALTITUDE RESERVATION (mission name) FLIGHT PLAN.*	***Example*** *"Condor One, cleared via approved altitude reservation Iron Shield Flight Plan."*
4-3-1 DEPARTURE TERMINOLOGY	
Avoid using the term "takeoff" except to actually clear an aircraft for takeoff or to cancel a takeoff clearance. Use such terms as "departure" or "fly" in clearances when necessary.	***Example*** *"Cactus Eight Fifty-Seven, after departure turn left heading one eight zero."*
4-3-2 DEPARTURE CLEARANCES	
Include in IFR departure clearances: departure airport (when clearance is to be relayed by an FSS or dispatcher, etc.), clearance limit, departure procedures, route of flight, and altitude. ***Phraseology*** *FLY RUNWAY HEADING.* *DEPART (direction or runway).* *TURN LEFT/RIGHT.* *WHEN ENTERING CONTROLLED AIRSPACE (instruction), FLY HEADING (degrees) UNTIL REACHING (altitude, point, or fix) BEFORE PROCEEDING ON COURSE.*	***Examples*** *"Toad Three Eight, fly runway heading."* *"Mooney Seven One Mike, depart northeast. Turn right. When entering controlled airspace fly heading one three zero until reaching seven thousand before proceeding on course."*

4-3-2 DEPARTURE CLEARANCES (Cont'd)	
Phraseology	***Examples***
FLY A (degree) BEARING/AZIMUTH FROM/TO (fix) UNTIL (time). *UNTIL REACHING (fix or altitude),* *BEFORE PROCEEDING ON COURSE.*	*"Grumman Six Six Golf, fly a zero niner zero bearing from Charleston VORTAC until reaching six thousand before proceeding on course."*
NOTE - *Instrument Departure Procedure (SID)*	
(SID name and number) DEPARTURE.	*"Douglas Six Six Mike, Stroudsburg One Departure."*
(SID name and number) DEPARTURE, (transition name) TRANSITION.	*"Douglas Six Six Mike, Stroudsburg One Departure, Sparta Transition."*
(SID name) DEPARTURE, EXCEPT (revised altitude information). I SAY AGAIN (revised altitude information).	*"Commander Seven Papa Quebec, Knik Three Departure, except cross Bigun at or above four thousand. I say again cross Bigun at or above four thousand."*
(SID name) DEPARTURE. CROSS (fix) AT (altitude).	*"November One Golf Alfa, Hokey Two Departure. Cross Exude at seven thousand."*
EXPECT FURTHER CLEARANCE VIA (airways, routes, or fixes).	*"Cessna Seven Three Bravo, expect further clearance via Victor Fifty-Four."*
CLIMB AND MAINTAIN (the altitude as near as possible to the pilot's requested altitude). EXPECT (the requested altitude or an altitude different from the requested altitude) AT (time or fix). *(Pilot's requested altitude) IS NOT AVAILABLE.*	*"King Air One Three Mike, climb and maintain one zero thousand. Expect flight level two one zero at Maxim. Flight level two three zero is not available."*
For Air Force One (A1) operations do **NOT** specify the destination airport.	
Phraseology	***Example***
DESTINATION AS FILED.	*"Air Force One, cleared to destination as filed."*

4-3-3 ABBREVIATED DEPARTURE CLEARANCE

Issue abbreviated departure clearances when it reduces verbiage and the route of flight has not been changed.

Phraseology

CLEARED TO (destination) AIRPORT;

(SID name and number) DEPARTURE, (transition name) TRANSITION; THEN AS FILED. MAINTAIN (altitude), (additional instructions or information).

CLEARED TO (destination) AIRPORT AS FILED. MAINTAIN (altitude), (additional instructions or information).

CLEARED TO (destination) AIRPORT (SID name and number) DEPARTURE, (transition name) TRANSITION; THEN, AS FILED, EXCEPT CHANGE ROUTE TO READ (amended route portion). MAINTAIN (altitude), (additional instructions or information).

CLEARED TO (destination) AIRPORT AS FILED, EXCEPT CHANGE ROUTE TO READ (amended route portion). MAINTAIN (altitude), (additional instructions or information).

In a nonradar environment, specify one or more fixes, as necessary, to identify the initial route of flight.

Examples

"Tango November Seven One Three Mike, cleared to Reynolds Airport; David Two R-NAV Departure, Kingham Transition; then as filed. Maintain niner thousand; expect flight level four one zero, one zero minutes after departure."

"Tango November Seven One Three Mike, cleared to Reynolds Airport as filed. Maintain niner thousand; expect flight level four one zero, one zero minutes after departure."

"Tango November Seven One Three Mike, cleared to Reynolds Airport; South Boston One Departure; then, as filed, except change route to read South Boston, Victor Twenty, Greensboro. Maintain eight thousand, report leaving four thousand."

"Tango November Seven One Three Mike, cleared to Reynolds Airport as filed, except change route to read South Boston, Victor Twenty, Greensboro. Maintain eight thousand; report leaving four thousand."

Example

The filed route of flight is from Hutchins V10 Emporia, thence V10N and V77 to St. Joseph. The clearance will read:

"Commander Four Five Whiskey, cleared to Watson Airport as filed via Emporia, maintain Seven Thousand."

4-3-4 DEPARTURE RESTRICTIONS, CLEARANCE VOID TIMES, HOLD FOR RELEASE, AND RELEASE TIMES

Assign departure restrictions, clearance void times, hold for release, or release times when necessary to separate departures from other traffic or to restrict or regulate the departure flow. Issue a time check when delivering a clearance void/release time. When issuing hold for release instructions, include departure delay information.

Phraseology	**Examples**
CLEARANCE VOID IF NOT OFF BY (clearance void time), *IF NOT OFF BY (clearance void time), ADVISE (facility) NOT LATER THAN (time) OF INTENTIONS, TIME (time in hours, minutes, nearest quarter minute).*	*"Boxcar Three, clearance void if not off by two two three five, if not off by two two three five, advise Anchorage Approach not later than two three zero five of intentions. Time two two one eight and one half."*
(Aircraft identification) CLEARED TO (destination) AIRPORT AS FILED, MAINTAIN (altitude), (additional instructions or information). HOLD FOR RELEASE, EXPECT (time in hours and/or minutes) DEPARTURE DELAY.	*"Baron Five Seven Bravo, cleared to Dallas Love Airport as filed, maintain one four thousand. Hold for release, expect one hour departure delay."*

Release an aircraft to another controller by stating:

Phraseology	**Example**
(Aircraft identification) RELEASED.	*"Baron Four Two Five Seven Bravo released."*

Release an aircraft to a flight service specialist by stating:

Phraseology	**Example**
ADVISE (aircraft identification) RELEASED FOR DEPARTURE.	*"Advise Baron Four Two Five Seven Bravo released for departure."*

When issuing the release of an aircraft directly to a pilot at an airport not served by a control tower:

Phraseology	**Examples**
(*Aircraft identification) RELEASED FOR DEPARTURE.*	*"Lear One Delta Charlie, released for departure."*
(Aircraft identification) RELEASED FOR DEPARTURE AT (time in hours and/or minutes), *IF NOT OFF BY (time), ADVISE (facility) NOT LATER THAN (time) OF INTENTIONS. TIME (time in hours, minutes, and nearest quarter minute).*	*"King Air Two Five X-Ray, released for departure at one seven one five. If not off by one seven two zero, advise Columbus Approach not later than one seven five zero of intentions. Time one seven zero niner and three quarters."*

4-3-8 VFR RELEASE OF IFR DEPARTURE

For aircraft filed IFR requesting VFR departure, inform the pilot of the proper frequency and, if appropriate, where or when to contact the facility responsible for issuing the clearance.

Phraseology	**Example**
VFR DEPARTURE AUTHORIZED. CONTACT (facility) ON (frequency) AT (location or time if required) FOR CLEARANCE.	*"November Six Three Echo, V-F-R departure authorized. Contact Fort Worth Center on one one niner point five at Marshall for clearance."*

4-4-1 ROUTE USE

Clear aircraft via routes consistent with the altitude stratum in which the operation is to be conducted.

Phraseology	**Examples**
VIA:	
VICTOR (color) (airway number) (the word ROMEO when R-NAV for existing Alaska routes).	*"Continental Three Thirty-Two, cleared via Victor Twelve."*
J (route number) (the word ROMEO when R-NAV for existing Alaska routes).	*"Continental Three Thirty-Two, cleared via J One Thirty-One."*
SUBSTITUTE (ATS route) FROM (fix) TO (fix).	*"Continental Three Thirty-Two, cleared via substitute J One Hundred from McAlester to Amarillo."*
IR (route number).	*"Talon Three Two, cleared via I-R Thirty-Seven."*
CROSS/JOIN VICTOR (color) (airway number), (number of miles) MILES (direction) OF (fix).	*"Continental Three Thirty-Two, join Victor Seventy-Four, eight miles west of Dothan VORTAC."*
DIRECT.	*"Reach Four Five Seven, cleared direct Tulsa, then as filed."*
VIA:	
(Name of NAVAID) (specified) RADIAL/COURSE/ AZIMUTH.	*"Continental Three Thirty-Two, cleared via Dover VORTAC three two niner radial."*
(Fix) AND (fix).	*"Continental Three Thirty-Two, via Buffalo and Fish Mountain."*
RADIALS OF (ATS route) AND (ATS route).	*"Continental Three Thirty-Two, cleared to Bando via radials of Victor Six and Victor Twenty-One."*

4-4-1 ROUTE USE (Cont'd)

Latitude/longitude coordinates, state the latitude and longitude in degrees and minutes including the direction from the axis such as north or west.

Phraseology

"(Number of degrees) DEGREES, (number of minutes) MINUTES NORTH/SOUTH, (number of degrees) DEGREES, (number of minutes) MINUTES WEST/EAST."

Examples

"Continental Three Thirty-Two, cleared via three two degrees, four five minutes north, one zero five degrees, three seven minutes west."

Phraseology

CLEARED TO FLY (general direction from NAVAID) OF (NAVAID name and type) BETWEEN (specified) COURSES TO/BEARINGS FROM/RADIALS (NAVAID name when an NDB) WITHIN (number of miles) MILE RADIUS.

CLEARED TO FLY (specified) QUADRANT OF (NAVAID name and type) WITHIN (number of miles) MILE RADIUS.

CLEARED TO FLY (general direction from MLS) OF (name of MLS) BETWEEN (specified) AZIMUTHS WITHIN/BETWEEN (numbers of miles) MILE RADIUS.

DIRECT (fix/waypoint).

DIRECT TO THE (facility) (radial) (distance) FIX. OFFSET (distance) RIGHT/LEFT OF (route).

Examples

"Aztec Two Four Mike, cleared to fly east of Allentown VORTAC between the zero four five and the one three five radials within four zero mile radius."

"Commander Seven Three Kilo, cleared to fly northeast quadrant of Philipsburg VORTAC within four zero mile radius."

"Flight Check Five One, cleared to fly east of the Montgomery M-L-S Runway Two Eight Left between the two seven zero and the two four zero azimuths within a five mile radius."

"November Eight Zero Delta, direct to the Appleton three one zero radial two five mile fix. Offset eight miles right of Victor Six."

4-5-7 ALTITUDE INFORMATION

Issue altitude to maintain or cruise. Issue an appropriate crossing altitude as required.

Phraseology

MAINTAIN/CRUISE (altitude). MAINTAIN (altitude) UNTIL (time)/PAST (fix),/(number of miles or minutes) MILES/MINUTES PAST (fix).

CROSS (fix, point)/INTERCEPT (route) AT OR ABOVE (altitude), CRUISE (altitude).

CLIMB/DESCEND AND MAINTAIN (altitude).

AFTER PASSING (fix)/AT (time).

Examples

"Yankee Five Seven Lima, cruise seven thousand. Maintain niner thousand until two zero miles past Rockford VORTAC."

"November Three Niner X-Ray, cross Enid VORTAC at or above six thousand, cruise five thousand."

"Convair Five Three Tango, descend and maintain one two thousand at zero four two zero."

"Delta Forty-Five, after passing Enid VORTAC, descend and maintain one one thousand."

4-5-7 ALTITUDE INFORMATION (Cont'd)

AT (time) CLIMB/DESCEND AND MAINTAIN (altitude) WHEN ESTABLISHED AT LEAST (number of miles or minutes) MILES/MINUTES PAST (fix) ON THE (NAVAID) (specified) RADIAL.	*"T-W-A Fifty-Five, climb and maintain one zero thousand when established at least five miles past Huron on the Baxter VORTAC three three zero radial."*
CLIMB/DESCEND TO REACH (altitude) AT (time(issue time check) or fix)/A POINT (number of miles) MILES (direction) OF (name of DME NAVAID).	*"Northwest One Forty-Two Heavy, descend to reach four thousand at a point two zero miles west of Saint Paul VORTAC."*
Phraseology	***Examples***
CROSS (fix) AT (altitude).	*"United Eighty-One, cross James at eight thousand."*
CROSS (fix) AT OR ABOVE/BELOW (altitude).	*"November Five Three Quebec, cross Bixby at or above one one thousand."*
CLIMB/DESCEND AT PILOT'S DISCRETION.	*"United Four Seventeen, descend at pilot's discretion, maintain six thousand."*
CLIMB/DESCEND NOW TO (altitude), THEN CLIMB/ DESCEND AT PILOT'S DISCRETION MAINTAIN (altitude).	*"Delta Sixteen, descend now to one two thousand, then descend at pilot's discretion maintain seven thousand."*
MAINTAIN BLOCK (altitude) THROUGH (altitude).	*"Quack One Four, maintain block one one thousand through one five thousand."*
DESCEND VIA (STAR/RNAV STAR/FMSP name and number and runway number).	*"Northwest Two Thirty-Two, descend via the Mudde One Arrival Runway Two Seven Right."*
DESCEND VIA THE (STAR/RNAV STAR/FMSP name and number) ARRIVAL EXCEPT CROSS (revised altitude information).	*"Northwest Two Thirty-Two, descend via the Muddle One Arrival, except cross Water at or above six thousand."*

4-5-8 ANTICIPATED ALTITUDE CHANGES

If practicable, inform an aircraft when to expect climb or descent clearance or to request altitude change from another facility.	
Phraseology	***Examples***
EXPECT HIGHER/LOWER IN (number of miles or minutes) MILES/MINUTES.	*"Skylane Niner One Mike, expect lower altitude in one five miles."*
AT (fix) REQUEST ALTITUDE CHANGE FROM (name of facility) AT (time/fix/altitude if appropriate).	*"Pearl Four Two, request altitude change from Kansas City Approach on initial contact."*
	"Skywagon Seven Seven Bravo at Oklahoma City, request altitude change from Baxter Approach at Bigun."

4-5-9 ALTITUDE CONFIRMATION - NONRADAR

Unless pilot states altitude or you assign a new altitude to a climbing or descending aircraft, request the pilot to confirm assigned altitude on initial contact.

Phraseology	**Examples**
VERIFY AT (altitude/flight level).	*"November Seven Two Foxtrot, verify at one zero thousand."*
VERIFY ASSIGNED ALTITUDE (altitude).	*"November Zero Zero X-Ray, verify assigned altitude five thousand."*
VERIFY ASSIGNED FLIGHT LEVEL (flight level).	*"Delta Four Eighty-Nine, verify assigned flight level three three zero."*

4-6-1 CLEARANCE TO HOLDING FIX

If any part of the route beyond a clearance limit differs from the last routing cleared, issue the route the pilot can expect beyond the clearance limit.

Phraseology	**Examples**
EXPECT FURTHER CLEARANCE VIA (routing).	*"Tango November Three Seven Mike, expect further clearance via direct Stillwater V-O-R, Victor Two Twenty-Six, Snapy Intersection, direct Newark."*
CLEARED TO (fix), HOLD (direction), AS PUBLISHED.	*"U-S Air Nineteen, cleared to Tulsa VORTAC, hold northwest, as published."*
CLEARED TO (fix), NO DELAY EXPECTED.	
EXPECT FURTHER CLEARANCE (time), *ANTICIPATE ADDITIONAL (time in minutes/hours) MINUTE/HOUR DELAY AT (fix).*	*"November One One Three Whiskey, cleared to Drewe, hold west, as published, expect further clearance one three one five, anticipate additional two zero minute delay at Woody."*
ANTICIPATE ADDITIONAL (time in minutes/hours) MINUTE/HOUR EN ROUTE DELAY.	
EXPECT FURTHER CLEARANCE (time), *ANTICIPATE ADDITIONAL (time in minutes/hours) MINUTE/HOUR TERMINAL DELAY.*	*"Southwest Forty, cleared to Aston, hold west on Victor Two Twenty-Five, seven-mile leg, left turns, expect further clearance one niner two zero, anticipate additional one five minute terminal delay."*
DELAY INDEFINITE, (reason if known), EXPECT FURTHER CLEARANCE (time). (After determining the reason for the delay, advise the pilot as soon as possible.)	*"Cessna Seven Zero Uniform, cleared to Wally, hold north, as published, delay indefinite, snow removal in progress, expect further clearance one one three zero."*

4-6-2 CLEARANCE BEYOND FIX	
If no delay is expected, issue a clearance beyond the clearance limit as soon as possible and, whenever possible, at least 5 minutes before the aircraft reaches the fix. Issue a clearance limit or approach clearance and the route of flight by the complete details or the phrase, "via the last routing cleared."	
Phraseology	***Example***
VIA LAST ROUTING CLEARED.	*"Alfa November Three One, proceed via last routing cleared."*
4-6-3 DELAYS	
When arrival delays reach or are anticipated to reach 30 minutes, issue the delay information.	
Phraseology	***Example***
(Airport) ARRIVAL DELAYS (time in minutes/hours).	*"T-W-A Twelve, O'Hare arrival delays two hours."*
4-6-4 HOLDING INSTRUCTIONS	
When necessary to issue holding instructions, specify the direction of holding from the fix, holding fix, radial/course/bearing, leg length, and direction of turns (if left or considered necessary).	
Phraseology	***Example***
HOLD (direction) OF (fix) ON (specified radial, course, bearing, airway, azimuth(s), or route). *(Number of minutes/miles) MINUTES/MILES LEG.* *LEFT/RIGHT TURNS.* *MAXIMUM HOLDING AIRSPEED IS TWO ONE ZERO KNOTS.*	*"American Fifty-Six Eleven, hold southwest of Lasky on the localizer. Three minutes leg. Left turns. Maximum holding airspeed is two one zero knots."*
4-6-5 VISUAL HOLDING POINTS	
You may use as a holding fix a location which the pilot can determine by visual reference to the surface if he/she is familiar with it.	
Phraseology	***Example***
HOLD AT (location) UNTIL (time or other condition).	*"Kido Two One, hold at City Dam until further advised."*

4-7-1 CLEARANCE INFORMATION	
Clear an arriving aircraft to a clearance limit by specifying the fix or airport and the route of flight. ***Phraseology*** *(STAR/RNAV STAR/FMSP name and number) ARRIVAL.* *(STAR/RNAV STAR/FMSP name and number) ARRIVAL, (transition name) TRANSITION.* Assign an altitude or instructions to vertically navigate on the STAR/RNAV STAR/FMSP or STAR/RNAV STAR/FMSP transition.	***Examples*** *"Delta Forty-Seven, cleared to Tulsa Airport via Tulsa One Arrival, maintain one two thousand."* *"Tally Three Three, cleared to Tulsa Airport via Camak One Arrival, Dilly Transition, maintain one two thousand."* ***Examples*** *"Lear Four Five Victor, cleared to the Backwater Airport via Bayview Three R-NAV Arrival, Helen Transition, maintain Flight Level Three Three Zero."* *"Airwest Sixty-Five, descend via the Civit One Arrival."* *"Delta Eight Sixty-Five, cross JCT at Flight Level Two Four Zero."* *"United Eight Twenty-Three, descend via the Coast Two Arrival."*
4-7-6 ARRIVAL INFORMATION	
Forward aircraft identification, type, ETA (as necessary), clearance limit (when other than the destination airport), and transfer of control point to nonapproach control towers and approach control facilities. ***Phraseology*** *(Identification), (type), ESTIMATED/OVER (clearance limit), (time), EFC (time).* *YOUR CONTROL.* *Or* *YOUR CONTROL AT (time/fix/altitude).*	***Example*** *"Delta Six Twenty-Three, M-D Eighty, Estimated Woodside one five one eight, eight thousand, expect further clearance one five three five, your control at Big Sur."*

4-7-10 APPROACH INFORMATION

On initial contact or as soon as possible thereafter, provide approach information to aircraft destined to airports for which you provide approach control services. Include the type approach to expect, the runway, if different, then the approach runway, surface wind, ceiling and visibility (as necessary), and altimeter for the airport of intended landing. Controllers without access to current airport weather data shall inform pilots that the weather is not available and the frequency where automated weather data may be obtained. Information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code.

Phraseology

(Airport) AWOS/ASOS WEATHER AVAILABLE ON (frequency).

Example

"November Two Papa Golf, Springfield ASOS weather available on one two zero point two."

Advise pilots when the ILS/MLS on the runway-in-use is not operational if that ILS/MLS is on the same frequency as an operational ILS/MLS serving another runway.

Example

"Cactus Eight Twenty, expect visual approach Runway Two Five Right, Runway Two Five Right I-L-S not operational."

4-8-1 APPROACH CLEARANCE

Clear aircraft for "standard" or "special" instrument approach procedures only. To require an aircraft to execute a particular instrument approach procedure, specify in the approach clearance the name of the approach as published on the approach chart. Where more than one procedure is published on a single chart and a specific procedure is to be flown, amend the approach clearance to specify execution of the specific approach to be flown. If only one instrument approach of a particular type is published, the approach need not be identified by the runway reference. An aircraft conducting an ILS/MLS approach when glideslope/glidepath is reported out of service shall be advised at the time when the approach clearance is issued.

Phraseology

CLEARED (type) APPROACH.

Examples

"November Two One Seven Three Mike, cleared V-O-R approach."

CLEARED STRAIGHT-IN (type) APPROACH.

"Arrow Zero Eight Juliett, cleared straight-in V-O-R approach."

4-8-1 APPROACH CLEARANCE (Cont'd)

Phraseology	**Examples**
CLEARED APPROACH.	*"Mooney Eight Zero Mike, cleared F-M-S Runway Three Six approach."*
CLEARED (specific procedure to be flown) APPROACH.	*"Mooney Eight Zero Mike, cleared localizer back course Runway One Three Approach."* *"Mooney Eight Zero Mike, cleared R-NAV Runway Two Two Approach."* *"Mooney Eight Zero Mike, cleared Branch One R-NAV Arrival and R-NAV Runway One Three Approach."*
CLEARED (type) APPROACH, GLIDESLOPE/GLIDEPATH UNUSABLE.	*"Mooney Eight Zero Mike, cleared I-L-S Runway Three Six Approach, glideslope unusable."* *"November Two Niner Victor, cleared M-L-S Runway Three Six Approach, glidepath unusable."*
Assign an altitude to maintain until the aircraft is established on a segment of a published route or instrument approach procedure.	***Example*** *"Centurion One Zero Mike, cross the Redding V-O-R at or above five thousand, cleared V-O-R Runway Three Four Approach."*
Where a Terminal Arrival Area (TAA) has been established to support RNAV, assign a minimum IFR altitude for the route of flight until entering the TAA.	***Example*** *"King Air One Hotel Lima, cleared to CHARR, maintain at or above five thousand until entering the TAA, cleared R-NAV Runway One Eight Approach."*

4-8-6 CIRCLING APPROACH

Circling approach instructions may only be given for aircraft landing at airports with operational control towers. When the direction of the circling maneuver in relation to the airport/runway is required, state the direction (eight cardinal compass points) and specify a left/right base/downwind leg as appropriate.

Phraseology	**Examples**
CIRCLE TO RUNWAY (number).	*"Sabreliner Four Niner Lima, circle to Runway Three Two."*
CIRCLE (direction using eight cardinal compass points) OF THE AIRPORT/RUNWAY FOR A LEFT/RIGHT BASE/DOWNWIND TO RUNWAY (number).	*"Commander Eight Seven Mike, circle northeast of the airport for a right base to Runway Two Niner."*

4-8-7 SIDE-STEP MANEUVER	
TERMINAL: When authorized by an instrument approach procedure, you may clear an aircraft for an approach to runway and inform the aircraft that the landing will be made on a parallel runway.	***Example*** *"Centurion Eight Three Bravo Foxtrot, cleared I-L-S Runway Seven Left Approach, side step to Runway Seven Right."*
4-8-8 COMMUNICATIONS RELEASE	
If an IFR aircraft intends to land at an airport not served by a tower or FSS, approve a change to the advisory service frequency when you no longer require direct communications. ***Phraseology*** *CHANGE TO ADVISORY FREQUENCY APPROVED.*	***Example*** *"November Three Zero Bravo, change to advisory frequency approved."*
4-8-10 APPROACH INFORMATION	
When a pilot advises he/she is unfamiliar with an approach procedure, specify in the approach clearance the initial approach altitude, direction and distance from the holding fix within which the procedure turn is to be completed, altitude at which the procedure turn is to be made, final approach course and altitude, and missed approach procedures if considered necessary. ***Phraseology*** *INITIAL APPROACH AT (altitude), PROCEDURE TURN AT (altitude) (number) MINUTES/MILES (direction), FINAL APPROACH ON (name of NAVAID) (specified) COURSE/RADIAL/AZIMUTH AT (altitude).*	***Example*** *"Citation Three Zero Quebec, initial approach at two thousand, procedure turn at one thousand seven hundred ten miles southwest, final approach on Bethel one one seven radial at one thousand five hundred."*
4-8-11 PRACTICE APPROACH	
Where separation services are not provided to VFR aircraft practicing instrument approaches, the controller shall instruct the pilot to maintain VFR and advise the pilot that separation services are not provided. ***Phraseology*** *(Aircraft identification) MAINTAIN VFR, PRACTICE APPROACH APPROVED, NO SEPARATION SERVICES PROVIDED.*	***Example*** *"November One Alfa Charlie, maintain V-F-R, practice approach approved, no separation services provided."*

4-8-12 LOW APPROACH AND TOUCH-AND-GO	
Before an aircraft begins its final descent, issue the appropriate departure instructions the pilot is to follow upon completion of the approach. Climb-out instructions must include a specific heading or a route of flight and altitude, except when the aircraft will remain VFR and contact the tower. Climb-out instructions may be omitted after the first approach if instructions remain the same.	***Examples*** *"Challenger Eight One Bravo, after completing low approach, climb and maintain six thousand, turn right heading three six zero."* *"Grumman Four One Five, maintain V-F-R, contact tower."*

RADAR PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 5 of the 7110.65.

5-1-3 RADAR USE	
Advise pilots when radar is temporarily unusable or out of service.	
Phraseology	***Example***
PRIMARY RADAR OUT OF SERVICE. RADAR TRAFFIC ADVISORIES AVAILABLE ON TRANSPONDER AIRCRAFT ONLY.	*"Primary radar unavailable Cleveland Approach. Radar services available on transponder-equipped aircraft only."*
5-1-5 ECM/ECCM ACTIVITY	
When ECM activity interferes with the operational use of radar, request suspension of the activity. When previously suspended activity will no longer interfere, advise that it may be resumed.	
Phraseology	***Examples***
BIG PHOTO (identification, if known) (name) CENTER/TOWER/APPROACH CONTROL, STOP STREAM/BURST IN AREA (area name) (degree and distance from facility).	*"Big Photo Five Two, Pittsburgh Approach, stop stream in area southeast of Ellwood City V-O-R."*
STOP BUZZER ON (frequency band or channel).	*"Big Photo Five Two, Pittsburgh Approach, stop buzzer on Sierra band."*
RESUME STREAM/BURST.	
RESUME BUZZER ON (frequency band or channel).	*"Big Photo Five Two, Pittsburgh Approach, resume buzzer on Sierra band."*
5-1-8 MERGING TARGET PROCEDURES	
Except while they are established in a holding pattern, apply merging target procedures to all radar identified aircraft at or above 10,000 feet, all turbojets, and presidential aircraft. Issue traffic information when targets appear likely to merge unless aircraft are separated by more than the appropriate vertical separation minima.	***Examples*** *"Traffic twelve o'clock, seven miles, eastbound, M-D-Eighty, at one seven thousand."* *"United Sixteen and American Twenty-Five, traffic twelve o'clock, one zero miles, eastbound, seven twenty-seven at flight level three three zero, westbound, M-D-Eighty, at flight level three one zero."*
When both aircraft are in Reduced Vertical Separation Minimum (RVSM) airspace and vertically separated by 1,000 feet, and if either pilot reports they are unable to maintain RVSM due to turbulence or mountain wave, vector either aircraft to avoid merging with the target of the other aircraft.	***Example*** *"Delta One Twenty-Three, fly heading two niner zero, vector for traffic. Traffic twelve o'clock, one zero miles, opposite direction, M-D-Eighty eastbound at flight level three two zero."*

5-1-12 POSITION REPORTING

If necessary, you may request an aircraft to provide an estimate or report over a specific fix. When required, inform an aircraft of its position with respect to a fix or airway.

Phraseology	Examples
OVER/PASSING (fix).	*"Baron Three Romeo Bravo, report over Franklin V-O-R."*
	"Centurion Two One Zulu, report passing Grace Intersection."
(Number of miles) MILES FROM (fix).	*"Seminole Three Papa Lima, report one five miles from Dunkirk V-O-R."*
(Number of miles) MILES (direction) OF (fix, airway, or location).	*"Queenair Three Eight Kilo Mike, report three zero miles southeast of Erie V-O-R."*
CROSSING/JOINING/DEPARTING (airway or route).	*"Grumman Six Four Golf, report crossing the zero niner zero radial of Jefferson V-O-R."*
INTERCEPTING/CROSSING (name of NAVAID) (specified) RADIAL.	*"Convair Six Four Romeo Tango, report intercepting Jamestown zero niner zero radial."*

5-1-13 RADAR SERVICE TERMINATION

Inform aircraft when radar service is terminated.

Phraseology	Example
RADAR SERVICE TERMINATED (nonradar routing if required).	*"November Six Two Seven Lima, radar service terminated proceed direct Indianhead V-O-R then as filed."*

5-2-1 ASSIGNMENT CRITERIA

Make radar beacon code assignments to only Mode 3/A transponder-equipped aircraft.

Phraseology	Examples
SQUAWK THREE/ALFA (code).	*"Air Evac Four Two One, squawk Alfa four three two two."*
SQUAWK (code).	*"U-S Air Twenty-One, squawk four three two two."*

5-2-7 EMERGENCY CODE ASSIGNMENT	
Assign Code 7700 to aircraft not radar identified when the pilot declares an emergency. After radio and radar contact have been established, you may request a code change.	
Phraseology	***Examples***
SQUAWK MAYDAY ON 7700.	*"Okie Four Two, squawk Mayday on seven seven zero zero."*
RADAR CONTACT (position). IF FEASIBLE, SQUAWK (code).	*"Marine Hotel Lima Three Four, radar contact three zero miles east of Norfolk. If feasible, squawk three two one four."*
5-2-9 VFR CODE ASSIGNMENTS	
Instruct IFR aircraft that cancel an IFR flight plan and are not requesting radar advisory service and VFR aircraft for which radar advisory service is being terminated to squawk the VFR code.	
Phraseology	***Examples***
SQUAWK VFR.	*"Yankee Eight Echo Yankee, squawk V-F-R."*
SQUAWK 1200.	*"Cougar Seven Whiskey Whiskey, squawk one two zero zero."*
5-2-12 STANDBY OR LOW SENSITIVITY OPERATION	
When necessary to reduce clutter, you may instruct aircraft to change transponder to "standby" or "low sensitivity" position provided you have the aircraft return to "normal sensitivity" as soon as possible thereafter.	
Phraseology	***Examples***
SQUAWK STANDBY.	*"Lodestar One Juliett November, squawk standby."*
SQUAWK LOW/NORMAL.	*"November Two Charlie Romeo, squawk low."* *"November Two Charlie Romeo, squawk normal."*

5-2-14 FAILURE TO DISPLAY ASSIGNED BEACON CODE OR INOPERATIVE/MALFUNCTIONING TRANSPONDER	
Inform an aircraft with an operable transponder that the assigned beacon code is not being displayed. Inform an aircraft when its transponder appears to be inoperative or malfunctioning.	
Phraseology	***Examples***
(Identification) RESET TRANSPONDER, SQUAWK (appropriate code).	*"Baron Niner Kilo Kilo, reset transponder, squawk zero three zero four."*
(Identification) YOUR TRANSPONDER APPEARS INOPERATIVE/MALFUNCTIONING, RESET, SQUAWK (appropriate code).	*"Baron Niner Kilo Kilo, your transponder appears inoperative, reset, squawk zero three zero four."*

5-2-15 INOPERATIVE OR MALFUNCTIONING INTERROGATOR	
Inform aircraft concerned when the ground interrogator appears to be inoperative or malfunctioning.	
Phraseology	***Example***
(Name of facility or control function) BEACON INTERROGATOR INOPERATIVE/ MALFUNCTIONING.	*"Attention all aircraft. Greensboro Approach beacon interrogator inoperative."*

5-2-17 VALIDATION OF MODE C READOUT

Ensure that Mode C altitude readouts are valid after accepting an interfacility handoff, initial track start, track start from coast/suspend tab list, missing, or unreasonable Mode C readouts. Whenever you observe an invalid Mode C altitude readout below FL 180, issue the correct altimeter setting and confirm the pilot has accurately reported the altitude. If the altitude readout continues to be invalid, instruct the pilot to turn off the altitude reporting part of the transponder and include a reason.

Phraseology	**Examples**
SAY ALTITUDE.	*"November Two One Kilo Mike, say altitude."*
SAY FLIGHT LEVEL.	*"Delta Ten, say flight level."*
(Location) ALTIMETER (appropriate altimeter), VERIFY ALTITUDE.	*"Southwest Forty-three, Lambert altimeter three zero zero one, verify altitude."*
CONFIRM USING TWO NINER NINER TWO AS YOUR ALTIMETER SETTING, VERIFY ALTITUDE.	*"November Niner Golf Charlie, confirm using two niner niner two as your altimeter setting, verify altitude."*
VERIFY FLIGHT LEVEL.	*"Delta Ten, verify flight level."*
STOP ALTITUDE SQUAWK. ALTITUDE DIFFERS BY (number of feet) FEET.	*"U-S Air Fifty-five, stop altitude squawk. Altitude differs by four hundred feet."*

5-2-18 ALTITUDE CONFIRMATION - MODE C

After interfacility handoff, request a pilot to confirm assigned altitude on initial contact. Confirmation need not be requested when: pilot states the assigned altitude, you assign a new altitude, or the Mode C readout is valid and indicates that the aircraft is at the assigned altitude.

Phraseology	**Examples**
VERIFY AT (altitude).	*"Delta Four Twenty-three, verify at niner thousand."*
VERIFY ASSIGNED ALTITUDE (altitude).	*"T-W-A Thirty-two, verify assigned altitude one two thousand."*
VERIFY ASSIGNED FLIGHT LEVEL (flight level).	*"T-W-A Thirty-two, verify assigned flight level two niner zero."*

5-2-19 ALTITUDE CONFIRMATION - NONMODE C	
Request a pilot to confirm assigned altitude on initial contact. Confirmation need not be requested when pilot states the assigned altitude or you assign a new altitude.	
Phraseology	***Examples***
VERIFY AT (altitude/flight level).	*"King Air Five Juliett Golf, verify at eight thousand."*
VERIFY ASSIGNED ALTITUDE/FLIGHT LEVEL (altitude/flight level).	*"Gulfstream Six Romeo Romeo, verify assigned altitude six thousand."*

5-2-20 AUTOMATIC ALTITUDE REPORTING	
Inform an aircraft when you want it to turn on/off the automatic altitude reporting feature of its transponder.	
Phraseology	***Examples***
SQUAWK ALTITUDE.	*"Northwest Eighty-Four, squawk altitude."*
STOP ALTITUDE SQUAWK.	*"Lockheed Niner Lima November, stop altitude squawk."*

5-2-22 BEACON TERMINATION	
Inform an aircraft when you want it to turn off its transponder.	
Phraseology	***Examples***
STOP SQUAWK.	*"Air Guard Six Seven Niner, stop squawk."*
For a military aircraft when you do not know if the military service requires that it continue operating on another mode:	
STOP SQUAWK (mode in use).	*"Storm Three Two, stop squawk mode Alfa."*

5-3-3 BEACON IDENTIFICATION METHODS

When using only Mode 3/A radar beacon to identify a target, request the aircraft to "IDENT," change to a specific code, or squawk "standby" followed by squawk "normal."

Phraseology	**Examples**
IDENT.	*"Super Cub Four Romeo Charlie, ident."*
SQUAWK (code) AND IDENT.	*"Super Cub Four Romeo Charlie, squawk zero three zero four and ident."*
SQUAWK STANDBY.	*"Skyhawk Three Five Four, squawk standby."*
SQUAWK NORMAL.	*"Skyhawk Three Five Four, squawk normal."*
SQUAWK (4-digit discrete code), AND IF YOUR ALTITUDE REPORTING EQUIPMENT IS TURNED OFF, SQUAWK ALTITUDE.	*"Lear Two Papa Tango, squawk zero four zero three, and if your altitude reporting equipment is turned off, squawk altitude."*

5-3-6 POSITION INFORMATION

Inform an aircraft of its position whenever radar identification is established by means of identifying turns or by any of the beacon identification methods. Position information need not be given when identification is established by position correlation or when a departing aircraft is identified within 1 mile of the takeoff runway end.

Example

"Skyhawk Three Five Four, radar contact two zero miles southeast of the Erie Airport."

5-3-7 IDENTIFICATION STATUS

Inform aircraft of radar contact when radar identification is initially established or reestablished subsequent to loss of radar contact or terminating radar service.

Phraseology	**Examples**
RADAR CONTACT (position if required).	*"United Forty-Three, radar contact."* *"Skyhawk Three Five Four, radar contact two zero miles southeast of the Erie Airport."*

Inform an aircraft when radar contact is lost.

Phraseology	**Example**
RADAR CONTACT LOST (alternative instructions when required).	*"November Three Niner Golf, radar contact lost, squawk one two zero zero."*

5-4-3 METHODS (TRANSFER OF RADAR IDENTIFICATION)

When making a handoff or point-out, or issuing traffic restrictions, relay in the following order: the position of the target, the aircraft identification, and the assigned altitude (unless covered in an LOA).

Phraseology	***Examples***
HANDOFF/POINT-OUT/TRAFFIC (aircraft position) (aircraft ID) or (discrete beacon code point-out only) (altitude, restrictions, and other appropriate information, if applicable).	*"Handoff one zero miles southeast of Wails, November Three Four Charlie Charlie at six thousand."* *"Point-out, one zero miles north of the Tulsa V-O-R, code three four seven seven, at one three thousand requesting descent to seven thousand."*

When receiving a handoff, point-out, or traffic restrictions, respond to the transferring controller as follows:

Phraseology	***Examples***
(Aircraft ID), (restrictions, if applicable) RADAR CONTACT.	*"November Three Four Charlie Charlie, radar contact."*
(Aircraft ID or discrete beacon code) (restrictions, if applicable) POINT-OUT APPROVED.	*"Code three four seven seven, point-out approved."*
TRAFFIC OBSERVED.	
UNABLE (appropriate information, as required).	*"Code three four seven seven, unable seven thousand, maintain niner thousand, point-out approved."*

5-6-2 METHODS (VECTORING)	
Specify the direction of turn, if appropriate, and the magnetic heading to be flown, or the number of degrees, in group form, to turn and the direction of turn. For NO-GYRO procedures, issue the type of vector, the direction of turn, and when to stop turn.	
Phraseology	***Examples***
TURN LEFT/RIGHT HEADING (degrees).	*"November Three Four Five, turn right heading three five zero."*
FLY HEADING (degrees).	*"Aztec Niner Two Golf, fly heading zero four zero."*
FLY PRESENT HEADING.	*"United Four Twenty-Eight, fly present heading."*
DEPART (fix) HEADING (degrees).	*"Skylane Two One Zulu, depart Wails heading zero niner zero."*
TURN (number of degrees) DEGREES LEFT/RIGHT.	*"U-S Air Six Thirty-Two, turn thirty degrees right."*
THIS WILL BE A NO-GYRO VECTOR, TURN LEFT/RIGHT.	*"Air Guard Five Seven Three, this will be a no-gyro vector, turn right."*
STOP TURN.	*"Air Guard Five Seven Three, stop turn."*

5-6-2 METHODS (VECTORING) (Cont'd)

When initiating a vector, advise the pilot of the purpose and, if appropriate, what to expect when the vector is completed.

Phraseology	Examples
VECTOR TO (fix or airway).	*"Luscombe Niner Two Three, turn right heading zero niner zero vector to Victor Fourteen."*
VECTOR TO INTERCEPT (name of NAVAID) (specified) RADIAL.	*"Bonanza Four One Bravo, turn right heading zero niner zero vector to intercept the Erie zero one five radial."*
VECTOR FOR SPACING.	*"U-S Air Four Twenty-Three, turn right heading three four zero, vector for spacing."*
VECTOR TO FINAL APPROACH COURSE.	*"Delta Thirty-Two, turn left heading two seven zero, vector to final approach course."*
VECTOR TO (approach name) FINAL APPROACH COURSE.	*"T-W-A Fifty-Five, fly heading three one zero, vector to I-L-S Runway Two Eight Right final approach course."*
EXPECT TO RESUME (route, SID, STAR, FMSP, etc.).	*"Bonanza Seven Three Eight, turn left heading three three zero, expect to resume Rainy One Departure."*
(Position with respect to course/fix along route), RESUME OWN NAVIGATION.	*"Tomahawk Four Five Six, one zero miles northeast of the Tulsa V-O-R, resume own navigation."*
FLY HEADING (degrees). WHEN ABLE, PROCEED DIRECT (name of fix).	*"United Four Twenty-Eight, fly heading three five zero. When able, proceed direct Tulsa V-O-R."*
RESUME (name-number FMSP/SID/Transition/ STAR/procedure).	*"Southwest Thirty-Four, resume Rainy One Departure, Stillwater Transition."*

Aircraft instructed to resume a procedure which contains restrictions shall be issued/reissued all applicable restrictions or shall be advised to comply with those restrictions.

Phraseology	Example
RESUME (name-number FMSP/SID/Transition/STAR), COMPLY WITH RESTRICTIONS.	*"U-S Air Forty-Four, resume River One Departure, comply with restrictions."*

5-6-2 METHODS (VECTORING) (Cont'd)	
Inform the pilot when a vector will take the aircraft across a previously assigned nonradar route.	
Phraseology	***Example***
EXPECT VECTOR ACROSS (NAVAID radial)/(airway/route/course) FOR (purpose).	*"Eagle Three, expect vector across Victor Twelve for spacing."*
5-7-2 METHODS (SPEED ADJUSTMENT)	
Instruct aircraft to maintain present/specific speed, specified speed or greater/less, highest/lowest practical speed, and increase/reduce to a specified speed or by a specified number of knots.	
Phraseology	***Examples***
SAY AIRSPEED/MACH NUMBER.	*"T-W-A Eighty-Three, say mach number."*
MAINTAIN PRESENT SPEED.	*"Mooney Two One Zulu, maintain present speed."*
MAINTAIN (specific speed) KNOTS.	*"Troy One Three, maintain two five zero knots."*
MAINTAIN (specific speed) KNOTS OR GREATER.	*"U-S Air Eight Seventy-One, maintain two five zero knots or greater."*
DO NOT EXCEED (speed) KNOTS.	*"Lear Two Seven Lima, do not exceed two one zero knots."*
MAINTAIN MAXIMUM FORWARD SPEED.	*"Skipper Six Seven Three, maintain maximum forward speed."*
MAINTAIN SLOWEST PRACTICAL SPEED.	*"Okie Forty-Four, maintain slowest practical speed."*
INCREASE/REDUCE SPEED/TO (specified speed in knots)/TO MACH (mach number)/(number of knots) KNOTS.	*"United Four Twenty-Eight, increase speed to two three zero."* *"United Four Twenty-Eight, increase speed thirty knots."* *"United Four Twenty-Eight, reduce speed to two one zero."* *"United Four Twenty-Eight, reduce speed thirty knots."*
DO NOT EXCEED (speed) KNOTS.	*"Navy Alfa Lima Four Three, do not exceed two five zero knots."*

5-7-2 METHODS (SPEED ADJUSTMENT) (Cont'd)	
Use the following phraseology to obtain pilot concurrence for a speed adjustment:	
Phraseology	***Examples***
(Speed adjustment), IF UNABLE ADVISE.	*"Eagle Three, reduce speed to one eight zero, if unable advise."*
Specify which action is to be accomplished first when combining speed reduction with a descent clearance. Specify combined speed/altitude fix crossing restrictions.	
Phraseology	***Examples***
REDUCE SPEED TO (specified speed)/(number of knots) KNOTS, THEN, DESCEND AND MAINTAIN (altitude).	*"Southwest Forty-Three, reduce speed to two five zero knots. Then, descend and maintain six thousand."*
DESCEND AND MAINTAIN (altitude), THEN, REDUCE SPEED TO (specified speed in knots)/TO MACH (mach number)/(number of knots) KNOTS.	*"Falcon Eight Two Three, descend and maintain six thousand. Then, reduce speed to one eight zero knots."*
CROSS (fix) AT AND MAINTAIN (altitude) AT (specified speed) KNOTS.	*"U-S Air Thirty-Three, cross Grace at and maintain one zero thousand at two three zero knots."*
5-7-4 SPEED ADJUSTMENT TERMINATION	
Advise aircraft when speed adjustment is no longer needed.	
Phraseology	***Example***
RESUME NORMAL SPEED.	*"United Four Twenty-Eight, resume normal speed."*
5-8-2 INITIAL HEADING	
Before departure, assign the initial heading to be flown if a departing aircraft is to be vectored immediately after takeoff. A purpose for the heading is not necessary in the terminal environment for a departure.	
Phraseology	***Examples***
FLY RUNWAY HEADING.	*"Aerostar Two Three Four, fly runway heading."*
TURN LEFT/RIGHT, HEADING (degrees).	*"Cessna Niner Hotel Lima, turn left, heading three two zero."*

5-9-2 FINAL APPROACH COURSE INTERCEPTION	
Assign headings that will permit final approach course interception on a track that does not exceed the required interception angles. If deviations from the final approach course are observed inside the approach gate, inform the pilot of the aircraft's position and ask intentions.	
Phraseology	***Example***
(Distance) MILE(S) FROM THE AIRPORT, (distance) MILE(S) RIGHT/LEFT OF COURSE, SAY INTENTIONS.	*"Hawker Seven Whiskey Lima, five miles from the airport, one mile left of course, say intentions."*
5-9-3 VECTORS ACROSS FINAL APPROACH COURSE	
Inform the aircraft whenever a vector will take it across the final approach course and state the reason.	
Phraseology	***Example***
EXPECT VECTOR ACROSS FINAL FOR (purpose).	*"U-S Air Four Twenty-Three, expect vector across final for spacing."*
5-9-4 ARRIVAL INSTRUCTIONS	
Issue to an aircraft, before it reaches the approach gate, its position, a vector to intercept the final approach course (if necessary), an altitude to maintain (unless established on a segment of the approach), and the approach clearance. When radar is used to establish the final approach fix, inform the pilot that, after being advised that he/she is over the fix, he/she is to contact the tower.	***Examples*** *"Jetstream Six Five Alpha, seven miles from X-Ray, cleared I-L-S Runway Three Six Approach."* *"Grumman Four Eight Bravo, four miles from Lima, turn right heading three four zero, maintain two thousand until established on the localizer, cleared I-L-S Runway Three Six Approach."* *"Skylane Niner Four Victor, five miles from Alfa, turn right heading three three zero, cross Alfa at or above four thousand, cleared I-L-S Runway Three Six Approach."* *"United Six Seventy-Five, eight miles from Alfa, cross Alfa at or above four thousand, cleared I-L-S Runway Three Six Approach."* *"Saberliner Three Three Mike, three miles from Alfa, turn left heading two one zero, maintain four thousand until established on the azimuth course, cleared M-L-S Runway One Eight Approach."*

5-9-4 ARRIVAL INSTRUCTIONS (Cont'd)	
	Examples *"Baron Three Four Whiskey, three miles from final approach fix, turn left heading zero one zero, maintain two thousand until established on the localizer, cleared I-L-S Runway Three Six Approach, I will advise when over the fix."* *"Twin Cessna Six Three Six One, seven miles from FOORE, cleared direct FOORE, cross FOORE at or above four thousand, cleared RNAV Runway One Eight Approach."* *"Baron Three Four Whiskey, over final approach fix, contact tower one one eight point one."*
5-9-7 SIMULTANEOUS INDEPENDENT ILS/MLS APPROACHES - DUAL AND TRIPLE	
Instruct the aircraft to return to the correct final approach course when observed overshooting/on a track which will penetrate the No Transgression Zone (NTZ). Instruct aircraft on the adjacent final approach course to alter course to avoid the deviating aircraft. ***Phraseology*** *YOU HAVE CROSSED THE FINAL APPROACH COURSE. TURN (left/right) IMMEDIATELY AND RETURN TO LOCALIZER/AZIMUTH COURSE.* *TURN (left/right) AND RETURN TO THE LOCALIZER/AZIMUTH COURSE.* *TRAFFIC ALERT, (call sign), TURN (left/right) IMMEDIATELY HEADING (degrees), CLIMB AND MAINTAIN (altitude).*	***Examples*** *"T-W-A Thirty-Two, you have crossed the final approach course. Turn right immediately and return to localizer course."* *"T-W-A Thirty-Two, turn left and return to the azimuth course."* *"Traffic Alert, T-W-A Thirty-Two, turn left immediately heading one niner zero, climb and maintain one two thousand."*

5-9-8 SIMULTANEOUS INDEPENDENT DUAL ILS/MLS APPROACHES - HIGH UPDATE RADAR	
Instruct aircraft to return immediately to the correct final approach course when observed overshooting/on a track which will penetrate the No Transgression Zone (NTZ).	
Phraseology	***Examples***
(Aircraft call sign) I SHOW YOU (left/right) OF THE FINAL APPROACH COURSE.	*"Mooney Six Five Papa, I show you left of the final approach course."*
YOU HAVE CROSSED THE FINAL APPROACH. TURN (left/right) IMMEDIATELY AND RETURN TO THE LOCALIZER/AZIMUTH COURSE.	*"T-W-A Thirty-Two, you have crossed the final approach course. Turn right immediately and return to localizer course."*
TURN (left/right) AND RETURN TO THE LOCALIZER AZIMUTH COURSE.	*"T-W-A Thirty-Two, turn left and return to the azimuth course."*
TRAFFIC ALERT, (call sign), TURN (left/right) IMMEDIATELY HEADING (degrees), CLIMB AND MAINTAIN (altitude).	*"Traffic Alert, Delta Four Sixteen, turn left immediately heading one niner zero, climb and maintain two thousand."*

5-10-2 APPROACH INFORMATION

Inform the aircraft of the type of approach, runway, airport, heliport, or other point, as appropriate, to which the approach will be made. Specify the airport name when the approach is to a secondary airport. For surveillance approaches, specify the location of the MAP in relation to the runway/airport/heliport. Inform an aircraft making an approach to an airport not served by a tower that no traffic or landing runway information is available for that airport.

Phraseology	***Examples***
THIS WILL BE A PAR/SURVEILLANCE APPROACH TO RUNWAY (number)/(airport name) AIRPORT, RUNWAY (number)/(airport name) AIRPORT/HELIPORT.	*"Archer Two Lima Mike, this will be a surveillance approach to Runway Six."*
THIS WILL BE A COPTER P-A-R APPROACH TO RUNWAY (runway number)/(airport name) AIRPORT, RUNWAY (runway number)/(airport name) AIRPORT/HELIPORT.	
MISSED APPROACH POINT IS (distance) MILE(S) FROM RUNWAY/AIRPORT/HELIPORT.	*"Skymaster Niner Seven Eight, this will be a Runway One Six surveillance approach to Jefferson Airport. Missed approach point is one mile from airport."* *"Army Copter Seven Seven Eight, this will be a surveillance approach to Blackwell Heliport. Missed approach point is one mile from heliport."*
A MISSED APPROACH POINT (distance) MILE(S) (direction from landing area) OF (airport name) AIRPORT/HELIPORT.	*"Army Copter Seven Seven Eight, this will be a surveillance approach to a missed approach point three point five miles south of Creedon Heliport."*
NO TRAFFIC OR LANDING RUNWAY INFORMATION AVAILABLE FOR THE AIRPORT.	*"Skymaster Niner Seven Eight, no traffic or landing runway information available for the Airport."*

5-10-3 NO-GYRO APPROACH

When an aircraft will make a no-gyro surveillance or PAR approach, before issuing a vector, inform the aircraft of the type of approach. Instruct the aircraft when to start and stop turn. After turn to final approach has been made and prior to the aircraft reaching the approach gate, instruct the aircraft to make half standard rate turns.

Phraseology	**Examples**
THIS WILL BE A NO-GYRO SURVEILLANCE/PAR APPROACH.	*"Trice Three Two, this will be a no-gyro surveillance approach."*
TURN LEFT/RIGHT.	*"Trice Three Two, turn right."*
STOP TURN.	*"Trice Three Two, stop turn."*
MAKE HALF-STANDARD RATE TURNS.	*"Trice Three Two, make half-standard rate turns."*

5-10-4 LOST COMMUNICATIONS

Issue lost communications instructions as required. If the pilot states that he/she cannot accept the lost communications procedure due to weather conditions or other reasons, request the pilot's intentions.

Phraseology	**Example**
IF NO TRANSMISSIONS ARE RECEIVED FOR (time interval) IN THE PATTERN OR FIVE/FIFTEEN SECONDS ON FINAL APPROACH, ATTEMPT CONTACT ON (frequency), AND (if the possibility exists), PROCEED VFR. IF UNABLE, PROCEED WITH (nonradar approach), MAINTAIN (altitude) UNTIL ESTABLISHED ON/OVER/FIX/NAVAID/APPROACH PROCEDURE/(alternative instructions).	*"Wacky Two Four, if no transmissions are received for one minute in the pattern or fifteen seconds on final approach, attempt contact on tower frequency one one eight point one, and proceed V-F-R. If unable, proceed with V-O-R Runway Six Approach, maintain three thousand until established on approach procedure."*

5-10-7 POSITION INFORMATION

Inform the aircraft of its position at least once before starting final approach.

Phraseology	**Examples**
(Number) MILES (direction) OF (airport name) AIRPORT.	*"Gumbo Six One, five miles northeast of Niagara Airport."*
(Number) MILES (direction) OF (airport name) AIRPORT ON DOWNWIND/BASE LEG.	*"Gumbo Six One, eight miles northeast of Niagara Airport on downwind."*

5-10-8 FINAL CONTROLLER CHANGEOVER	
When instructing the aircraft to change frequency for final approach guidance, include the name of the facility. ***Phraseology*** *CONTACT (name of facility) FINAL CONTROLLER ON (frequency).*	 ***Example*** *"Totem Eight Four, contact Niagara final controller on one two zero point zero."*
5-10-9 COMMUNICATIONS CHECK	
On initial contact with the final controller, ask the aircraft for a communications check. ***Phraseology*** *(Name of facility) FINAL CONTROLLER. HOW DO YOU HEAR ME?*	 ***Example*** *"Totem Eight Four, Niagara final controller. How do you hear me?"*
5-10-10 TRANSMISSION ACKNOWLEDGMENT	
After contact has been established with the final controller and while on the final approach course, instruct the aircraft not to acknowledge further transmissions. ***Phraseology*** *DO NOT ACKNOWLEDGE FURTHER TRANSMISSIONS.*	 ***Example*** *"Totem Eight Four, do not acknowledge further transmissions."*
5-10-11 MISSED APPROACH	
Before an aircraft starts final descent for a full stop landing and weather reports indicate that any portion of the final approach will be conducted in IFR conditions, issue a specific missed approach procedure approved for the radar approach being conducted. ***Phraseology*** *YOUR MISSED APPROACH PROCEDURE IS (missed approach procedure).*	 ***Example*** *"Harpo Five One, your missed approach procedure is fly runway heading maintain three thousand."*

5-10-12 LOW APPROACH AND TOUCH-AND-GO

Before an aircraft which plans to execute a low approach or touch-and-go begins final descent, issue appropriate departure instructions to be followed upon completion of the approach. Climb-out instructions must include a specific heading and altitude, except when the aircraft will maintain VFR and contact the tower.

Phraseology

AFTER COMPLETING LOW APPROACH/TOUCH AND GO:

CLIMB AND MAINTAIN (altitude). TURN (right/left) HEADING (degrees)/FLY RUNWAY HEADING.

MAINTAIN VFR, CONTACT TOWER.

(Other instructions as appropriate).

Examples

"Fargo Two Two, after completing low approach, climb and maintain three thousand, fly runway heading."

"Fargo Two Two, after completing touch-and-go, maintain V-F-R, contact tower."

5-10-13 TOWER CLEARANCE

Obtain a clearance to land, touch-and-go, or make a low approach from the tower. If the clearance is not received or canceled, inform the aircraft and issue alternate instructions.

Phraseology

TOWER CLEARANCE CANCELED/NOT RECEIVED, (alternate instructions).

Example

"Trice Three Two, tower clearance not received, execute missed approach."

5-10-14 FINAL APPROACH ABNORMALITIES

If the runway environment is not in sight or abnormalities are observed, instruct the aircraft to execute missed approach. If the pilot requests, approval may be granted to proceed with the approach via ILS or another navigational aid/approach aid.

Phraseology

IF RUNWAY/APPROACH LIGHTS/RUNWAY LIGHTS NOT IN SIGHT, EXECUTE MISSED APPROACH/(alternative instructions).

Example

"Bingo Seven Four, if runway not in sight, execute missed approach."

If airport conditions or traffic preclude approach completion:

Phraseology

EXECUTE MISSED APPROACH/(alternative instructions). (Reason).

Example

"Bingo Seven Four, execute missed approach. Too high for safe approach."

5-11-1 ALTITUDE INFORMATION

Provide recommended altitudes on final if the pilot requests. If recommended altitudes are requested, inform the pilot that recommended altitudes which are above the published MDA will be given for each mile on final.

Phraseology

RECOMMENDED ALTITUDES WILL BE PROVIDED FOR EACH MILE ON FINAL TO MINIMUM DESCENT ALTITUDE/CIRCLING MINIMUM DESCENT ALTITUDE.

Example

"Bingo Seven Four, recommended altitudes will be provided for each mile on final to minimum descent altitude."

5-11-2 VISUAL REFERENCE REPORT

Aircraft may be requested to report the runway, approach/runway lights, or airport in sight. Helicopters making a "point-in-space" approach may be requested to report when able to proceed to the landing area by visual reference to a prescribed surface route.

Phraseology

REPORT (runway, approach/runway lights or airport) IN SIGHT.

REPORT WHEN ABLE TO PROCEED VISUALLY TO AIRPORT/HELIPORT.

Examples

"Bingo Seven Four, report runway in sight."

"Bingo Seven Four, report when able to proceed visually to airport."

5-11-3 DESCENT NOTIFICATION

Issue advance notice of where descent will begin and issue the straight-in MDA prior to issuing final descent for the approaches.

Phraseology

PREPARE TO DESCEND IN (number) MILE(S).

MINIMUM DESCENT ALTITUDE (altitude).

REQUEST YOUR AIRCRAFT APPROACH CATEGORY. (Upon receipt of aircraft approach category), PUBLISHED CIRCLING MINIMUM DESCENT ALTITUDE (altitude).

Examples

"Macho Five One, prepare to descend in two miles. Minimum descent altitude one one zero zero."

"Macho Five One, request your aircraft approach category."

"Macho Five One, published circling minimum descent altitude two one zero zero."

5-11-4 DESCENT INSTRUCTIONS

Unless a descent restriction exists, advise the aircraft to descend to the MDA.

Phraseology	**Example**
(Number) MILES FROM RUNWAY/AIRPORT/ HELIPORT. DESCEND TO YOUR MINIMUM DESCENT ALTITUDE.	*"Macho Five One, four miles from runway. Descend to your minimum descent altitude."*

When a descent restriction exists, specify the prescribed restriction altitude. When the aircraft has passed the altitude limiting point, advise to continue descent to MDA.

Phraseology	**Examples**
(Number) MILES FROM RUNWAY/AIRPORT/ HELIPORT. DESCEND AND MAINTAIN (restriction altitude).	*"Macho Five One, four miles from runway. Descend and maintain one thousand one hundred."*
DESCEND TO YOUR MINIMUM DESCENT ALTITUDE.	*"Macho Five One, descend to your minimum descent altitude."*

5-11-5 FINAL APPROACH GUIDANCE

Issue course guidance, inform the aircraft when it is on course, and frequently inform the aircraft of any deviation from course. Transmissions with aircraft on surveillance final approach should occur approximately every 15 seconds. Issue trend information, as required, to indicate target position with respect to the extended runway centerline and to describe the target movement as appropriate corrections are issued. Trend information may be modified by terms "RAPIDLY" and "SLOWLY" as appropriate.

Phraseology	**Examples**
HEADING (heading), *ON COURSE.*	*"Rambo Eight Six, three miles from runway. Heading zero six zero, on course."*
SLIGHTLY/WELL LEFT/RIGHT OF COURSE.	*"Rambo Eight Six, two miles from runway. Slightly left of course, turn right heading zero five five."*
(Number) MILE(S) FROM RUNWAY/AIRPORT/ HELIPORT OR MISSED APPROACH POINT. *ALTITUDE SHOULD BE (altitude).*	*"Rambo Eight Six, three miles from runway. Altitude should be one thousand seven hundred."*

5-11-6 APPROACH GUIDANCE TERMINATION

When approach guidance has been discontinued and the aircraft **has** reported the runway or approach/runway lights in sight, advise the aircraft of its position and to proceed visually. When the aircraft **has not** reported the runway or approach/runway lights in sight, advise the aircraft of its position and to execute a missed approach unless the runway or approach/runway lights are in sight or, if a "point-in-space" approach, unless able to proceed visually.

Phraseology	***Examples***
(Distance) MILE(S) FROM RUNWAY/AIRPORT/ HELIPORT.	*"Ricky Two Six, four miles from airport, proceed visually."*
OVER MISSED APPROACH POINT.	*"Baker Four Two, over missed approach point. Proceed visually or execute missed approach."*
PROCEED VISUALLY (additional instructions/ clearance as required).	
IF RUNWAY or APPROACH/RUNWAY LIGHTS NOT IN SIGHT, EXECUTE MISSED APPROACH/(missed approach instructions). (additional instructions/clearance, as required).	*"Akron Seven Two, over missed approach point. If runway not in sight, execute missed approach."*
(Distance and direction) FROM AIRPORT/HELIPORT/ MISSED APPROACH POINT.	
IF UNABLE TO PROCEED VISUALLY, EXECUTE MISSED APPROACH. (additional instructions/ clearance, if required).	*"Guard Seven Eight Four, one mile from airport. If unable to proceed visually, execute missed approach."*

5-12-1 GLIDEPATH NOTIFICATION

Inform the aircraft when it is approaching glidepath (approximately 10 to 30 seconds before final descent).

Phraseology	***Example***
APPROACHING GLIDEPATH.	*"Army Six One Eight, approaching glidepath."*

5-12-2 DECISION HEIGHT (DH) NOTIFICATION

Provide the DH to any pilot who requests it.

Phraseology	***Example***
DECISION HEIGHT (number of feet).	*"Cabot Niner One, decision height six five five."*

5-12-3 DESCENT INSTRUCTIONS	
When an aircraft reaches the point where final descent is to start, instruct it to begin descent.	
Phraseology	***Example***
BEGIN DESCENT.	*"Navy Seven Seven Four, begin descent."*
5-12-4 GLIDEPATH AND COURSE INFORMATION	
Issue course guidance and inform the aircraft when it is on glidepath and on course, and frequently inform the aircraft of any deviation from glidepath or course. Transmissions with aircraft on precision final approach should occur approximately every 5 seconds.	
Phraseology	***Examples***
HEADING (heading).	*"Above glidepath."*
	"Going right of course."
ON GLIDEPATH.	
ON COURSE.	
SLIGHTLY/WELL ABOVE/BELOW GLIDEPATH.	*"Slightly above glidepath and coming down."*
	"Above glidepath and holding."
SLIGHTLY/WELL LEFT/RIGHT OF COURSE.	*"Left of course and correcting."*
5-12-5 DISTANCE FROM TOUCHDOWN	
Inform the aircraft of its distance from touchdown at least once each mile on final.	
Phraseology	***Example***
(Number of miles) MILES FROM TOUCHDOWN.	*"Five miles from touchdown."*
5-12-6 DECISION HEIGHT	
Inform the aircraft when it reaches the published decision height.	
Phraseology	***Example***
AT DECISION HEIGHT.	*"At decision height."*

5-12-7 POSITION ADVISORIES	
Advise the aircraft when it is passing over the approach lights. Inform the aircraft when it is passing over the landing threshold and inform it of its position with respect to the final approach course.	
Phraseology	***Examples***
OVER APPROACH LIGHTS.	*"Over approach lights."*
OVER LANDING THRESHOLD, (position with respect to course).	*"Over landing threshold, on course."*

5-12-8 APPROACH GUIDANCE TERMINATION	
Discontinue precision approach guidance when: • It is requested by the pilot. • In your opinion, continuation of a safe approach to the landing threshold is questionable. • The aircraft passes over the landing threshold. • The pilot reports the runway/approach lights in sight and requets to or advises that he/she will proceed visually.	
Phraseology	***Example***
(Distance) MILE(S) FROM TOUCHDOWN, PROCEED VISUALLY (additional instructions/clearance as required).	*"Bobo One Seven, one mile from touchdown proceed visually, contact tower."*

5-12-9 COMMUNICATION TRANSFER	
Issue communications transfer instructions.	
Phraseology	***Example***
CONTACT (terminal control function) (frequency, if required) AFTER LANDING.	*"Contact ground one two one point niner after landing."*

5-12-10 ELEVATION FAILURE

If the elevation portion of PAR equipment fails during a precision approach, discontinue PAR instructions and tell the aircraft to take over visually or, if unable, to execute a missed approach. If a surveillance approach, ASR, or PAR without glideslope is established for the same runway, inform the aircraft that a surveillance approach can be given. When the PAR azimuth is used, inform the pilot that mileages will be from touchdown, and at those runways where specific minima have been established for PAR without glideslope, inform the pilot that the PAR azimuth will be used for the approach.

Phraseology

NO GLIDEPATH INFORMATION AVAILABLE. IF RUNWAY, APPROACH/RUNWAY LIGHTS NOT IN SIGHT, EXECUTE MISSED APPROACH/(alternative instructions).

Examples

"No glidepath information available. If approach lights not in sight, execute missed approach."

"This will be a surveillance approach to Runway Three Six. Mileages will be from touchdown."

"This will be a surveillance approach to Runway Three Six using P-A-R azimuth. Mileages will be from touchdown."

"Five miles from touchdown, descend to your minimum descent altitude."

5-13-2 MONITOR AVAILABILITY

Inform the aircraft of the frequency on which monitoring information will be transmitted if it will not be the same as the communication frequency used for the approach. Advise aircraft if radar monitoring/continued radar monitoring is not available. State the reason and alternate procedures as appropriate.

Phraseology	***Examples***
RADAR MONITORING ON LOCALIZER VOICE (frequency),	*"Gumbo Three Seven, radar monitoring on localizer voice one one one point seven."*
CONTACT (terminal control function) (frequency, if required) AFTER LANDING.	*"Gumbo Three Seven, contact ground point niner after landing."*
RADAR MONITORING NOT AVAILABLE.	
(Reason), RADAR MONITORING NOT AVAILABLE, (alternative instructions).	*"Gumbo Three Seven, radar out of service, radar monitoring not available, contact tower."*

5-13-3 MONITOR INFORMATION

When approaches are monitored, and prior to beginning final descent, advise the pilot executing a nonprecision approach that glidepath advisories are not provided. Inform the aircraft, when passing the final approach fix (nonprecision approaches) or when passing the outer marker, of the fix used in lieu of the outer marker (precision approaches).

Phraseology	***Examples***
GLIDEPATH ADVISORIES WILL NOT BE PROVIDED.	*"Track Eight Eight, glidepath advisories will not be provided."*
PASSING (fix).	*"Track Eight Eight, passing outer marker. If not visual, advise you execute missed approach, contact tower."*
(Position with respect to course or glidepath). IF NOT VISUAL, ADVISE YOU EXECUTE MISSED APPROACH, (alternative instructions).	

Advise the pilot of glidepath trend (precision approaches) and course trend information to indicate target position and movement with respect to the elevation or azimuth cursor when the aircraft target corresponds to a position of well above/below the glidepath or well left/right of course and whenever the aircraft exceeds the radar safety limits. Repeat if no correction is observed.

Examples

"Baron Eight One Foxtrot, well right of P-A-R course, drifting further right."

"Army eight seven three, well above P-A-R glidepath."

5-13-3 MONITOR INFORMATION (Cont'd)	
If, after repeated advisories, the aircraft is observed proceeding outside the safety limits or a radical target deviation is observed, advise the aircraft, if unable to proceed visually, to execute a missed approach. Issue a specific altitude and heading if a procedure other than the published missed approach is to be executed.	
Phraseology	***Example***
(Position with respect to course or glidepath), IF NOT VISUAL, ADVISE YOU EXECUTE MISSED APPROACH (alternate instructions).	*"November Three One Seven, well left of P-A-R course, if not visual, advise you execute missed approach."*

NONRADAR PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 6 of the 7110.65.

6-4-1 APPLICATION (LONGITUDINAL SEPARATION)	
Separate aircraft longitudinally by requiring them to depart at a specified time/arrive at a fix at a specified time.	
Phraseology	***Examples***
CROSS (fix) AT OR BEFORE (time).	*"United Four Twenty-Eight, cross Tulsa V-O-R at or before one three three four."*
CROSS (fix) AT OR AFTER (time).	*"Southwest Thirty-Three, cross Tulsa V-O-R at or after one eight three seven."*

6-4-4 LONGITUDINAL SEPARATION (BY PILOTS)	
When pilots of aircraft on the same course in direct radio contact with each other concur, you may authorize the following aircraft to maintain longitudinal separation of 10 minutes, or 20 miles if they are using DME.	
Phraseology	***Example***
MAINTAIN AT LEAST ONE ZERO MINUTES/TWO ZERO MILES SEPARATION FROM (ident).	*"United Four Twenty-Eight, maintain at least one zero minutes separation from Southwest Thirty-Three."*

6-4-5 RNAV AIRCRAFT ALONG AIRWAYS/ROUTES (LONGITUDINAL)	
Advise the pilot to use DME distances when applying DME separation to an RNAV aircraft operating along VOR airways/routes.	
Phraseology	***Example***
USE DME DISTANCES.	*"Cessna Three Two Four, use D-M-E distances."*

6-5-3 DME ARC MINIMA (LATERAL)	
Require aircraft using DME to fly an arc about a NAVAID at a specified distance.	
Phraseology	***Example***
VIA (number of miles) MILE ARC (direction) OF (name of DME NAVAID).	*"U-S Air Forty-Five, proceed via one five mile arc east of Erie V-O-R."*

6-6-1 APPLICATION (VERTICAL SEPARATION)	
Assign an altitude to an aircraft after the aircraft previously at that altitude has reported leaving the altitude.	
Phraseology	***Examples***
REPORT LEAVING/REACHING (altitude).	*"Arrow Six Two Seven Lima, report leaving niner thousand."*
REPORT LEAVING ODD/EVEN ALTITUDES/ FLIGHT LEVELS.	*"Sabreliner Niner Lima Tango, report leaving even altitudes."*
SAY ALTITUDE.	*"Centurion Seven Whiskey Lima, say altitude."*

6-6-3 SEPARATION BY PILOTS	
When pilots of aircraft in direct radio communication with each other during climb or descent concur, you may authorize the lower aircraft, if climbing, or the upper aircraft, if descending, to maintain vertical separation.	***Example*** "Queen Air Niner Charlie Quebec, maintain at least one thousand feet below November Zero Charlie Quebec."

VISUAL PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 7 of the 7110.65.

7-1-2 VFR CONDITIONS

You may clear aircraft to maintain "VFR conditions."

Phraseology	**_Examples_**
MAINTAIN VFR CONDITIONS.	*"Bellanca Five Two Four, maintain V-F-R conditions."*
MAINTAIN VFR CONDITIONS UNTIL (time or fix).	*"Cardinal Seven Eight Three, maintain V-F-R conditions until Stillwater V-O-R."*
MAINTAIN VFR CONDITIONS ABOVE/BELOW (altitude).	*"Tiger Niner Tango Lima, maintain V-F-R conditions below five thousand."*
CLIMB / DESCEND VFR, *BETWEEN (altitude) AND (altitude).* *ABOVE/BELOW (altitude).*	*"Cessna One Two Papa, climb V-F-R between five thousand and one one thousand."*
IF UNABLE, (alternative procedure), AND ADVISE.	*"Seminole Three Two Four, climb V-F-R above six thousand. If unable, maintain six thousand, and advise."*

7-1-4 VISUAL HOLDING OF VFR AIRCRAFT

Clear VFR aircraft to hold at selected, prominent geographical fixes which can be easily recognized from the air, preferably those depicted on sectional charts. Issue traffic information to aircraft cleared to hold at the same fix.

Phraseology	**_Examples_**
HOLD AT (location) UNTIL (time or other condition).	*"Comanche Six Juliett Golf, hold at Riverside Water Tower until one eight three zero. Traffic, Cherokee holding at Riverside Water Tower holding at two thousand five hundred."*
TRAFFIC, (description) HOLDING AT (fix, altitude if known)/PROCEEDING TO (fix) FROM (direction or fix).	*"Comanche Six Juliett Golf, hold at Riverside Water Tower until one eight three zero. Traffic, Cherokee proceeding to Riverside Water Tower from Owasso at two thousand five hundred."*

7-2-1 VISUAL SEPARATION

A pilot may be instructed to maintain visual separation from another aircraft. Inform the pilot of the other aircraft's position and intentions. When the pilot sees the other aircraft, instruct the pilot to maintain visual separation. Advise the pilot if the radar targets appear likely to merge. If the aircraft are on converging courses, inform the other aircraft of the traffic and that visual separation is being applied.

Phraseology	***Examples***
TRAFFIC, (clock position and distance), (direction)-BOUND, (type of aircraft), (intentions and other relevant information).	*"United Forty-Two Eighteen, traffic, ten o'clock five miles, eastbound, Boeing Seven Thirty-Seven, one zero thousand."*
ON CONVERGING COURSE. *DO YOU HAVE IT IN SIGHT?*	*"United Forty-Two Eighteen, traffic, ten o'clock five miles eastbound, Boeing Seven Thirty-Seven one zero thousand, on converging course. Do you have it in sight?"*
MAINTAIN VISUAL SEPARATION.	*"United Forty-Two Eighteen, maintain visual separation."*
TRAFFIC, (clock position and distance), (direction)-BOUND, (type of aircraft). HAS YOU IN SIGHT AND WILL MAINTAIN VISUAL SEPARATION.	*"Southwest Seven Thirty-Seven, traffic, two o'clock five miles, northbound, Boeing Seven Twenty-Seven descending to eight thousand. Has you in sight and will maintain visual separation."*

Nonapproach control towers may be authorized to provide visual separation between aircraft within surface areas or designated areas.

Phraseology	***Examples***
VISUAL SEPARATION APPROVED BETWEEN (identification) AND (identification).	*"Visual separation approved between Seneca Four Five Three Whiskey Juliett and Twin Cessna Eight One Four Niner Hotel."*
(Departing/succeeding aircraft) RELEASED YOUR DISCRETION.	*"Arrow Eight Two Delta released your discretion."*

7-3-1 VFR-ON-TOP

You may clear an aircraft to maintain "VFR-On-Top" if the pilot of an aircraft on an IFR flight plan requests the clearance. You may clear an aircraft to climb through clouds, smoke, haze, or other meteorological formations and then maintain "VFR-On-Top" if the pilot requests the clearance, you inform the pilot of the reported height of the tops of the meteorological formation/advise of no tops reports, you insure separation as necessary, and you reclear the aircraft to maintain "VFR-On-Top" after aircraft reports reaching "VFR-On-Top." Do not clear an aircraft to maintain "VFR-On-Top" between sunset and sunrise to separate holding aircraft from each other or from en route aircraft unless restrictions are applied to ensure appropriate IFR separation.

When, in your judgment, there is reason to believe that flight in VFR conditions may become impractical, issue an alternate clearance which will ensure separation from all other aircraft for which you have separation responsibility.

Phraseology	***Examples***
MAINTAIN VFR-ON-TOP.	*"Navion One Alfa Lima, maintain V-F-R-On-Top."*
CLIMB TO AND REPORT REACHING VFR-ON-TOP, TOPS REPORTED (altitude) /NO TOPS REPORTS. *IF NOT ON TOP AT (altitude), MAINTAIN (altitude), AND ADVISE.*	*"Archer Seven Seven Eight, climb to and report reaching V-F-R-On-Top, tops reported eight thousand. If not on top at niner thousand, maintain niner thousand and advise."*
MAINTAIN VFR-ON-TOP AT OR ABOVE/BELOW/ BETWEEN (altitudes).	*"Warrior Six Two Four, maintain V-F-R-On-Top at or above one three thousand five hundred."* *"Warrior Six Two Four, maintain V-F-R-On-Top at or below one two thousand five hundred."*
IF UNABLE, (alternative procedure), AND ADVISE.	*"Warrior Six Two Four, maintain V-F-R-On-Top between six thousand and one zero thousand. If unable, maintain eight thousand, and advise."*

7-3-2 ALTITUDE FOR DIRECTION OF FLIGHT	
Inform an aircraft maintaining "VFR-On-Top" when a report indicates the pilot is not conforming with FAR, Part 91.159(a). ***Phraseology*** *VFR-ON-TOP CRUISING LEVELS FOR YOUR DIRECTION OF FLIGHT ARE ODD/EVEN ALTITUDES/FLIGHT LEVELS PLUS FIVE HUNDRED FEET.*	***Example*** *"Caravan Six Seven Three, V-F-R-On-Top cruising levels for your direction of flight are odd altitudes plus five hundred feet."*
7-4-2 VECTORS FOR VISUAL APPROACH	
A vector for a visual approach may be initiated if the reported ceiling at the airport of intended landing is at least 500 feet above the MVA / MIA and the visibility is 3 miles or greater. At airports without weather reporting service there must be reasonable assurance that descent and flight to the airport can be made visually, and the pilot must be informed that weather information is not available. ***Phraseology*** *FLY HEADING/TURN RIGHT/LEFT HEADING (degrees), VECTOR FOR VISUAL APPROACH TO (airport name); (if appropriate) WEATHER NOT AVAILABLE.*	***Example*** *"Debonair Niner Hotel Lima, turn right heading zero three zero, vector for visual approach to James Airport; weather not available."*

7-4-3 CLEARANCE FOR VISUAL APPROACH

ARTCCs, approach controls, and authorized towers may clear aircraft for visual approaches. Advise pilots when the weather is not available for the destination airport or the frequency to receive weather information where AWOS/ASOS is available.

Phraseology

(Instructions) CLEARED VISUAL APPROACH RUNWAY (number).

(Instructions) CLEARED VISUAL APPROACH TO (airport name); (if appropriate) WEATHER NOT AVAILABLE / AWOS / ASOS WEATHER AVAILABLE ON FREQUENCY (frequency) mHz.

All aircraft following a heavy jet/B757 must be informed of the airplane manufacturer and model.

In instances where airports are located in close proximity, also provide the location of the airport that may cause confusion.

Examples

"U-S Air Forty-Three, cleared visual approach Runway Two Four."

"Challenger Eight Three Delta, cleared visual approach to Corry Airport; A-WOS weather available on frequency one two eight point six five."

Example

"Cessna Three Four Juliet, following a Boeing Seven Fifty-Seven, twelve o'clock, six miles."

Example

"Cessna Five Six November, Cleveland Burke Lakefront Airport is at twelve o'clock, five miles. Cleveland Hopkins Airport is at one o'clock, twelve miles. Report Cleveland Hopkins in sight."

7-4-5 CHARTED VISUAL FLIGHT PROCEDURES (CVFP)

Clear an aircraft for a CVFP only when the approach is conducted in a radar environment, there is an operating control tower, the published name of the approach is stated in the clearance, and the aircraft reports sighting a charted visual landmark or the preceding aircraft landing the same runway.

Phraseology

(Ident) CLEARED (name of CVFP) APPROACH.

Example

"Delta Forty-Three, cleared Stadium Visual Runway Three One Approach."

7-4-6 CONTACT APPROACH

Clear an aircraft for a contact approach only when requested by the pilot, ground visibility is at least 1 mile, an instrument approach has been published and is functioning for the airport, approved separation is provided, and an alternative clearance is issued when weather conditions are such that a contact approach may be impracticable.

Phraseology

CLEARED CONTACT APPROACH,

AT OR BELOW (altitude) (routing).

IF NOT POSSIBLE, (alternative procedures), AND ADVISE.

Example

"Travelair Seven Six Five, cleared contact approach at or below three thousand five hundred. If not possible, maintain three thousand five hundred, and advise."

7-5-1 SPECIAL VFR AUTHORIZATION

Use the following phraseology when issuing a Special VFR (SVFR) clearance:

Phraseology

CLEARED TO ENTER/OUT OF/THROUGH, BRAVO/CHARLIE/DELTA/ECHO SURFACE AREA,

(direction) OF (name) AIRPORT (specified routing),

MAINTAIN SPECIAL VFR CONDITIONS,

AT OR BELOW (altitude below 10,000 feet MSL)

CLEARED FOR (coded arrival or departure procedure) ARRIVAL/DEPARTURE, (additional instructions as required).

Examples

"Navajo Three Papa Lima, cleared to enter delta surface area, south of Jamestown Airport, maintain Special V-F-R conditions, at or below two thousand five hundred."

"Boeing Seven Seven Six, cleared for River One Arrival."

7-5-2 PRIORITY	
SVFR flights may be approved only if arriving and departing IFR aircraft are not delayed. Inform an aircraft of the anticipated delay when a SVFR clearance cannot be granted because of IFR traffic. ***Phraseology*** *EXPECT (number) MINUTES DELAY, (additional instructions as necessary).*	 ***Example*** *"Jetstream Niner Tango Charlie, expect one zero minutes delay."*
7-5-4 ALTITUDE ASSIGNMENT	
Clear SVFR aircraft at or below an altitude which is at least 500 feet below any conflicting IFR traffic but not below the minimum safe altitude. ***Phraseology*** *MAINTAIN SPECIAL VFR CONDITIONS AT OR BELOW (altitude).*	 ***Example*** *"Navajo Three Papa Lima, maintain Special V-F-R conditions at or below two thousand five hundred."*
7-5-5 LOCAL OPERATIONS	
Authorize local Special VFR operations for a specified period. ***Phraseology*** *LOCAL SPECIAL VFR OPERATIONS IN THE IMMEDIATE VICINITY OF (name) AIRPORT ARE AUTHORIZED UNTIL (time). MAINTAIN SPECIAL VFR CONDITIONS.*	 ***Example*** *"Skipper Niner Charlie Quebec, local Special V-F-R operations in the immediate vicinity of Jamestown Airport are authorized until one three four eight Zulu. Maintain Special V-F-R conditions."*
7-5-6 CLIMB TO VFR	
Authorize an aircraft to climb to VFR upon request if the only weather limitation is restricted visibility. ***Phraseology*** *CLIMB TO VFR WITHIN THE BRAVO/CHARLIE/ DELTA/ECHO SURFACE AREA/WITHIN (a specified distance) MILES FROM (airport name) AIRPORT, MAINTAIN SPECIAL VFR CONDITIONS UNTIL REACHING VFR.*	 ***Examples*** *"Twin Bonanza Seven Eight Three, climb to V-F-R within the DELTA surface area, maintain Special V-F-R conditions until reaching V-F-R."* *"Twin Bonanza Seven Eight Three, climb to V-F-R within five miles from James Airport, maintain Special V-F-R conditions until reaching V-F-R."*

7-5-7 GROUND VISIBILITY BELOW ONE MILE	
Inform departing aircraft requesting SVFR when ground visibility is less than 1 mile and a clearance cannot be issued.	
Phraseology	***Example***
(Name of airport) VISIBILITY LESS THAN ONE MILE. ADVISE INTENTIONS.	*"Centurion Eight Four Delta, Hayward Airport visibility less than one mile, advise intentions."*
7-6-7 SEQUENCING	
Establish radar contact before instructing a VFR aircraft to enter the traffic pattern at a specific point or vectoring the aircraft to a position in the approach sequence. Inform the pilot of the aircraft to follow when the integrity of the approach sequence is dependent on following the preceding aircraft.	
Phraseology	***Example***
FOLLOW (description) (position if necessary).	*"Duchess Five Four Three, follow the Cessna One Eighty-Two at one o'clock, three miles."*
7-6-11 TERMINATION OF SERVICE	
Terminate radar service to aircraft landing at airports other than those where sequencing service is provided at a sufficient distance from the airport to permit the pilot to change to the appropriate frequency for traffic and airport information.	
Phraseology	***Examples***
RADAR SERVICE TERMINATED, SQUAWK ONE TWO ZERO ZERO, *SQUAWK VFR,* *CHANGE TO ADVISORY FREQUENCY APPROVED,*	*"Duchess Five Four Three, radar service terminated, squawk one two zero zero, change to advisory frequency approved."*
CONTACT (frequency identification).	*"Duchess Five Four Three, contact Paine Tower."*
FREQUENCY CHANGE APPROVED.	*"Duchess Five Four Three, frequency change approved."*

7-7-5 ALTITUDE ASSIGNMENTS (TRSA) - TERMINAL	
Advise VFR aircraft to resume altitudes appropriate for the direction of flight when a previously assigned altitude is no longer needed for separation or when leaving the TRSA. ***Phraseology*** *RESUME APPROPRIATE VFR ALTITUDES.*	 ***Example*** *"Aircoupe Eight Six Five, resume appropriate V-F-R altitudes."*
7-7-7 TRSA DEPARTURE INFORMATION	
Inform VFR participating aircraft when leaving the TRSA. ***Phraseology*** *LEAVING THE (name) TRSA,* *RESUME OWN NAVIGATION/REMAIN THIS FREQUENCY FOR TRAFFIC ADVISORIES/RADAR SERVICE TERMINATED, SQUAWK ONE TWO ZERO ZERO/etc.*	 ***Examples*** *"Decathlon Eight Two Three, leaving the Erie TRSA. Remain this frequency for traffic advisories."* *"Decathlon Eight Two Three, leaving the Erie TRSA. Radar service terminated, squawk one two zero zero."*
7-8-4 ESTABLISHING TWO-WAY COMMUNICATIONS	
Class C service requires pilots to establish two-way radio communications before entering Class C airspace. If the controller responds to a radio call with, "(a/c call sign) standby," radio communications have been established and the pilot can enter Class C airspace. If workload or traffic conditions prevent immediate provision of Class C services, inform the pilot to remain outside of Class C airspace until conditions permit the services to be provided. ***Phraseology*** *REMAIN OUTSIDE CHARLIE AIRSPACE AND STANDBY.*	 ***Example*** *"Aircoupe Eight Six Five, remain outside Charlie Airspace and standby."*
7-8-5 ALTITUDE ASSIGNMENTS (CLASS C SERVICE AREA)	
Advise VFR aircraft to resume altitudes appropriate for the direction of flight when a previously assigned altitude is no longer needed for separation or when terminating Class C service. ***Phraseology*** *RESUME APPROPRIATE VFR ALTITUDES.*	 ***Example*** *"Aircoupe Eight Six Five, resume appropriate V-F-R altitudes."*

7-8-8 TERMINATION OF SERVICE	
Terminate Class C service to aircraft landing at other than the primary airport in sufficient time to allow the pilot to change to the appropriate frequency for traffic and airport information.	
Phraseology	***Example***
CHANGE TO ADVISORY FREQUENCY APPROVED. *CONTACT (facility identification).*	*"Westwind Niner Mike Charlie, change to advisory frequency approved."*

7-9-2 VFR AIRCRAFT IN CLASS B AIRSPACE	
VFR aircraft must obtain an ATC clearance to operate in Class B airspace.	
Phraseology	***Examples***
CLEARED THROUGH/TO ENTER/OUT OF (name) BRAVO AIRSPACE *VIA (route). MAINTAIN (altitude) WHILE IN BRAVO AIRSPACE.*	*"Starship Two Romeo Mike, cleared to enter Oakland Bravo airspace via direct Oakland V-O-R. Maintain four thousand five hundred while in Bravo airspace."*
	"Trinidad Seven Tango Charlie, cleared through/to Oakland Bravo airspace."
CLEARED AS REQUESTED, (additional instructions, as necessary).	*"Lear Five Tango Charlie, cleared as requested."*
REMAIN OUTSIDE BRAVO AIRSPACE, (when necessary, reason and/or additional instructions).	*"Musketeer Five Five Three, remain outside Bravo airspace."*
LEAVING (name) BRAVO AIRSPACE, *RESUME OWN NAVIGATION / REMAIN THIS FREQUENCY FOR TRAFFIC ADVISORIES / RADAR SERVICE TERMINATED / SQUAWK ONE TWO ZERO ZERO / etc.*	*"Starship Two Romeo Mike, leaving Honolulu Bravo airspace, resume own navigation, radar service terminated, squawk one two zero zero."*

7-9-7 ALTITUDE ASSIGNMENTS (CLASS B SERVICE AREA)	
Advise VFR aircraft to resume altitudes appropriate for the direction of flight when a previously assigned altitude is no longer required or when leaving Class B airspace.	
Phraseology	***Example***
RESUME APPROPRIATE VFR ALTITUDES.	*"Aircoupe Eight Six Five, resume appropriate V-F-R altitudes."*

SPECIAL FLIGHTS PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 9 of the 7110.65.

9-2-7 IFR MILITARY TRAINING ROUTES

Clear aircraft into an MTR provided separation will be applied between successive aircraft unless otherwise covered in a letter of agreement between the military scheduling activity and the concerned ATC facility. Unless covered in a letter of agreement, clear aircraft to exit an MTR. Prior to an aircraft entering an MTR, request the pilot's estimate for the route's exit/alternate exit fix, the pilot's requested altitude after exiting, and if applicable, the number of reentries on a Strategic Training Range (STR).

Phraseology	***Examples***
CLEARED INTO IR (designator). MAINTAIN (altitude). *MAINTAIN IR (designator) ALTITUDE(S).* *MAINTAIN AT OR BELOW (altitude).* *CRUISE (altitude),* *CROSS (fix) AT OR LATER THAN (time).*	*"Ronco One One, cleared into I-R Four Twenty-Three. Maintain at or below five thousand, cross Delta at or later than one eight three four."*
CLEARED TO (destination/clearance limit) FROM IR (designator/exit fix) VIA (route). MAINTAIN (altitude).	*"Steel Four Three, cleared to Clarion V-O-R from I-R Four Twenty-Three at Golf via direct. Maintain eight thousand."*
CONFIRM YOUR EXIT FIX ESTIMATE AND REQUESTED ALTITUDE AFTER EXIT, (if applicable) THE NUMBER OF REENTRIES.	*"Steel Four Three, confirm your exit fix estimate and requested altitude after exit."*

9-2-10LAND-BASED ADIZ/ ATC SECURITY SERVICES

Provide ATC security services at locations where procedures are required for the tracking of aircraft in security services airspace. ATC security services are designed to support the national security mission of the FAA and other agencies. Two-way radio communications, flight planning, and operational transponder on an assigned code are required for operations within the designated area

Aircraft flying too low for radar coverage shall be instructed to report landing or exiting the ADIZ. Maintain flight progress strips on such aircraft until pilot reports landing or exiting the ADIZ. If a flight progress strip does not exist for the aircraft, record the call sign, transponder code, entry point (e.g., north, northeast, east), and time of entry into the ADIZ.

Aircraft requesting security services should not normally be held. However, if holding is necessary Or workload/traffic conditions prevent immediate provision of ATC security services; inform the pilot to remain outside the designated area until conditions permit the provision of ATC security services. Inform the pilot of the expected length of delay.

Phraseology	
(ACID) TRANSPONDER OBSERVED PROCEED ON COURSE/AS REQUESTED; REMAIN OUTSIDE (CLASS) AIRSPACE.	*"Delta Two Twenty One, TRANSPONDER OBSERVED PROCEED ON COURSE/AS REQUESTED; REMAIN OUTSIDE Class B AIRSPACE."*
(Call sign), REPORT LANDING OR LEAVING THE ADIZ.	*"Delta Two Twenty One, REPORT LANDING/LEAVING THE ADIZ."*
(A/C CALL SIGN) REMAIN OUTSIDE OF THE (location) AND STANDBY. EXPECT (time) MINUTES DELAY.	*"Delta Two Twenty One, REMAIN OUTSIDE OF THE (location) AND STANDBY. EXPECT A 5 MINUTES DELAY."*

9-2-12 MILITARY AERIAL REFUELING

Authorize aircraft to conduct aerial refueling along published or special tracks at their flight plan altitude, unless otherwise requested. Request the aircraft to report the ARIP, ARCP, or egress fix as necessary.

Phraseology	***Examples***
CLEARED TO CONDUCT REFUELING ALONG (number) TRACK. *FROM (fix) TO (fix).* *MAINTAIN REFUELING LEVEL (altitude).* *MAINTAIN (altitude).* *COMMENCING AT (altitude), DESCENDING TO (altitude).*	*"Tanker One Five, cleared to conduct refueling along Alpha Fox eight twenty-one track from Charlie to Foxtrot, maintain refueling level one four thousand."*
REPORT A-R-I-P/A-R-C-P/EGRESS FIX.	*"Roper Two Eight, report egress fix."*

9-2-13 MILITARY OPERATIONS ABOVE FL 600

Approval of the flight plan indicates approval of both route and FL's (if stated), including operations below FL 600 (aerial refueling).

Phraseology

CLEARED AS FILED VIA ROUTE AND FLIGHT LEVELS.

Example

"Blaster Four Four, cleared as filed via route and flight levels."

9-2-19 EVASIVE ACTION MANEUVER

Approve a pilot request to conduct an Evasive Action maneuver only on the basis of a permissible traffic situation. Specify, as necessary, the specific route, distance of maximum route deviation, and altitude.

Phraseology

CLEARED TO CONDUCT EVASIVE ACTION MANEUVER FROM (fix) TO (fix), (number of miles) EITHER SIDE OF CENTERLINE, MAINTAIN (altitude) THROUGH (altitude), COMPLETE MANEUVER AT (fix) AT (altitude).

Example

"Tager Six Two, cleared to conduct evasive action maneuver from Doggo to Pappy, one zero miles either side of centerline, maintain three thousand through one zero thousand, complete maneuver at Yankee at eight thousand."

9-3-3 VFR-ON-TOP (SPECIAL USE AND ATC ASSIGNED AIRSPACE)

Inform the pilot to conduct flight "VFR-On-Top" at least 500 feet (FL 290 and above - 1,000 feet) above the upper limit or below the lower limit of active Prohibited/Restricted/Warning Area, MOA, or ATCAA.

Phraseology

MAINTAIN VFR-ON-TOP AT LEAST 500 FEET (FL 290 and above – 1,000 feet) ABOVE/BELOW (upper/ lower limit of airspace) ACROSS (name or number of airspace) BETWEEN (fix) AND (fix).

(Name of ATCAA) IS ATC ASSIGNED AIRSPACE.

Example

"Duddy Six Six, maintain V-F-R-On-Top at least 500 feet above one four thousand across R-Twenty-Eight Fifteen between Jamer and Lotto."

9-4-5 INFORMATION DISSEMINATION (FUEL DUMPING)

Broadcast a fuel dumping advisory at 3-minute intervals and again when completed.

Phraseology

ATTENTION ALL AIRCRAFT, FUEL DUMPING IN PROGRESS OVER (location) AT (altitude) BY (type aircraft) (flight direction).

FUEL DUMPING OVER (location) TERMINATED.

Examples

"Attention all aircraft. Fuel dumping in progress over Clarion V-O-R at one zero thousand by K-C Ten eastbound."

"Attention all aircraft. Fuel dumping over Clarion terminated."

9-6-1 APPLICATION (UNMANNED FREE BALLOONS)

Provide traffic advisories to all affected aircraft during initial contact specifying the balloon's known or estimated position, direction of movement, and altitude as "unknown" or "reported" as appropriate.

Phraseology

UNMANNED FREE BALLOON OVER (name of location).

or

ESTIMATED OVER (name of location).

MOVING (direction of movement).

LAST REPORTED ALTITUDE AT (altitude as reported by the operator or determined from pilot report).

or

ALTITUDE UNKNOWN.

Example

"Attention all aircraft. Unmanned free balloon over Dayton V-O-R, moving west, altitude unknown."

9-6-2 DERELICT BALLOONS

Balloons become derelict when a moored balloon slips its mooring and becomes a hazard to air navigation or when an unmanned free balloon flight cannot be terminated as planned. When this occurs:

- In the case of a moored balloon which has slipped its moorings, issue traffic advisories.
- In the case of an unmanned free balloon, flight-follow the balloon and, to the extent possible, provide aircraft under your control separation from the balloon.
- Forward balloon position information received from pilot reports or derived from radar returns to your supervisor for further dissemination.
- If radar contact with the balloon is lost, broadcast an advisory to all aircraft operating in the airspace affected by the derelict balloon at 10-minute intervals, continuing until the derelict balloon is no longer a factor.

9-6-2 DERELICT BALLOONS (Cont'd)	
Phraseology	**Example**
DERELICT BALLOON REPORTED IN THE VICINITY OF (location). *or* *ESTIMATED IN VICINITY OF (location).* *or* *REPORTED OVER (location).* *or* *RADAR REPORTED OVER (location).* *LAST REPORTED ALTITUDE AT (altitude as reported by operator or pilot report).* *or* *ALTITUDE/FLIGHT LEVEL UNKNOWN.*	*"Advisory to all aircraft. Derelict balloon reported in the vicinity of Tulsa. Last reported altitude at five thousand."*

EMERGENCIES PHRASEOLOGY

The phraseology presented in this section corresponds with Chapter 10 of the 7110.65.

10-2-6 HIJACKED AIRCRAFT	
When you observe a Mode 3/A Code 7500, an unexplained loss of beacon code, changes in direction of flight or altitude, and/or a loss of communications, notify supervisory personnel immediately.	
Phraseology	***Example***
(Name of facility) VERIFY SQUAWKING 7500.	*"United Four Twenty-Eight, Atlanta Approach, verify squawking seven five zero zero."*
10-2-13 MAN-PORTABLE AIR DEFENSE SYSTEMS (MANPADS) ALERT	
When a threat or attack from MANPADS is determined, disseminate via controller-to-pilot transmission until the appropriate MANPADS information is broadcast via the ATIS and pilots indicate they have received the appropriate ATIS code. MANPADS information will include nature and location of threat or incident, whether reported or observed and by whom, time (if known), and when transmitting to an individual aircraft, a request for pilot's intentions.	
Phraseology	***Examples***
ATTENTION (aircraft identification), MANPADS ALERT. EXERCISE EXTREME CAUTION. MANPADS THREAT/ATTACK/POST-EVENT ACTIVITY OBSERVED/REPORTED BY (reporting agency) (location) AT (time, if known). (When transmitting to an individual aircraft) SAY INTENTIONS.	*"Attention Eastern Four Seventeen, MANPADS alert. Exercise extreme caution. MANPADS threat reported by TSA, La Guardia vicinity. Say intentions."* *"Attention all aircraft, MANPADS alert. Exercise extreme caution. MANPADS post-event activity observed by tower south of airport at two one zero zero Zulu."*
10-2-14 UNAUTHORIZED LASER ILLUMINATION OF AIRCRAFT	
When a laser event is reported to an air traffic facility, broadcast on all appropriate frequencies a general caution warning every five minutes for 20 minutes following the last report.	
Phraseology	***Example***
UNAUTHORIZED LASER ILLUMINATION EVENT (location), (altitude).	*"Unauthorized laser illumination event five miles east of the Tulsa airport, 5,000 feet."*

10-4-4 COMMUNICATIONS FAILURE	
Attempt to reestablish communication by having the aircraft use its transponder or make turns to acknowledge clearances and answer questions. In using the transponder, request any of the following: • Request the aircraft to reply Mode 3/A "IDENT." • Request the aircraft to reply on Code 7600 or, if already on Code 7600, the appropriate stratum code. • Request the aircraft to change to "standby" for sufficient time for you to be sure that the lack of a target is the result of the requested action.	
Phraseology	***Examples***
REPLY NOT RECEIVED, (appropriate instructions).	*"Tango November Six Three Four, reply not received, to acknowledge descent clearance, ident."*
(Action) OBSERVED, (additional instructions/ information if necessary).	*"Tango November Six Three Four, ident observed, squawk seven six zero zero."*
10-6-4 INFLIGHT CONTINGENCIES	
In the event that an aircraft requests an emergency descent: • Issue a clearance to the requested altitude if approved separation can be provided. • Advise the aircraft of the traffic, and request its intentions if traffic prevents an unrestricted descent.	
Phraseology	***Example***
ATC ADVISES (aircraft identification) UNABLE TO APPROVE UNRESTRICTED DESCENT. TRAFFIC (traffic information). REQUEST INTENTIONS.	*"A-T-C advises Jetstar Two One Zulu unable to approve unrestricted descent. Traffic, twelve o'clock, one zero miles, southbound, Boeing Seven Thirty-Seven at one zero thousand. Request intentions."*

10-6-4 INFLIGHT CONTINGENCIES (Cont'd)	
In the event that an aircraft is making or will make an emergency descent without a clearance: • Advise other aircraft of the emergency descent.	
Phraseology	***Example***
ATC ADVISES (aircraft identification/all aircraft) BE ALERT FOR EMERGENCY DESCENT IN THE VICINITY OF (latitude/longitude) FROM (altitude/FL) TO (altitude/FL).	*"A-T-C advises all aircraft be alert for emergency descent in the vicinity of thirty-four degrees thirty-five minutes north, eighty-three degrees twenty minutes west from one seven thousand to five thousand."*
Advise other aircraft when the emergency descent is complete.	
Phraseology	***Example***
(Aircraft identification/all aircraft) EMERGENCY DESCENT AT (location) COMPLETED.	*"All aircraft emergency descent at thirty-four degrees thirty-five minutes north, eighty-three degrees twenty minutes west completed."*